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W. H. NEILSON, M. D.,
W. H. EARLES, M. D., ... EDITORS.

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Original Articles.

Surgery of the Gall-Bladder and Biliary Ducts.

By W. H. Earles, M. D., of Milwaukee,

Professor of the Principles and Practice of Surgery and Clinical Surgery in the Milwaukee Medical College. Surgeon to Trinity Hospital.

GENERAL CONSIDERATIONS.

In common with other surgical fields, that of the gall-bladder and biliary ducts, from time to time, becomes the subject of special study and effort on the part of pathologist and surgeon, and as a result it is advanced both in the direction of a clearer understanding of the pathologic conditions which sometimes surround it as well as to the better and safer methods to be attempted for the relief of the disordered physiologic functions with which it deals. So long as man is subject to the formation of gall-stones, just so long must the gall-bladder and biliary ducts be of interest to the surgeon and just so long should we labor to the end that the distressing and oftentimes dangerous conditions to which they are subject may with safety and surety be removed. As gall-stones in the bladder or ducts are the prime factors through whose agency surgical interference is often made necessary, this paper will be limited to a review of what has been accomplished in this field, and to an effort to summarize the different recognized procedures that we are warranted in practicing under certain given conditions. The relatively frequent occurrence of conditions of the gall-bladder and ducts necessitating surgical interference, combined with the published experiences of able observers and operators, has in a measure, at least, established reasonably safe guides for the course to be pursued by practitioners in general. Add to this the special information contributed by pathologists, and we have a very fair conception of the condition of affairs to be met with in any given case, as well as a rational theory to account for the symptoms present.

In view of the intimate relations existing between the gall-bladder and the biliary ducts and the manifest dependence of the usefulness of one upon the integrity of the other, we will, without indulging in detail, speak of their diseased conditions from a collective rather than from an individual standpoint; and that we may be enabled more clearly to comprehend the train of symptoms and constitutional disturbances that inevitably follow any marked interference with their physiologic functions, we would invite your attention to the surgical anatomy of the parts.

SURGICAL ANATOMY.

The gall-bladder, normally measuring about four inches in length, and one and a half in width, is situated on the under surface of the right lobe of the liver, its *fundus* lying almost directly beneath the ninth costal cartilage, and its *neck* approximating the pyloric end of the stomach. The middle portion, or *body*, lies over that part of the colon known as the hepatic flexure, as well as over the first *third* of the *duodenum*. The normal capacity of the bladder is about one and one-half ounces. The *cystic* duct, only about one inch in length, is the terminal extremity of the gall-bladder, and the natural and only channel through which the contents of the bladder must find exit. The *hepatic* duct—about one and one-half inches in length—connects the liver with the common duct, and through it must flow all bile secreted in the liver, whether this bile be destined for the gall-bladder, through the *cystic*, or for the intestine, through the *common* duct. The *common* bile duct—measuring about three inches in length, and two-fifths inches in diameter—is formed by the junction of the cystic and hepatic ducts, which takes place near the transverse fissure of the liver. From its point of origin it descends anterior to the portal

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vein, and posterior to the upper third of the duodenum. Continuing its course downwards, it usually unites with the pancreatic duct, and with it, through a common opening, enters the duodenum on the inner and posterior aspect of its middle third. Thus it will be seen from a study of this anatomy, that obstruction of the cystic duct may exist without in any way interfering with the flow of bile through the hepatic and common ducts to the intestine. Such an obstruction can only interfere with the flow of fluids to and from the gall-bladder. Indeed, there may be complete absence of this duct, as well as that of the gall-bladder, without producing any hindrance to the natural flow of bile. When, however, we have complete obstruction of the hepatic or common ducts, there is no possibility of the bile reaching its normal physiologic outlet; it is therefore backed upon the liver, re-absorbed, carried through the circulation to the different parts of the body, and inevitably results in a general jaundiced condition of the system. The significance of this fact, in locating the seat of obstruction, cannot be overestimated. In health, the gall-bladder cannot be felt, but when distended, from any cause, its location is readily made out, as it presents in the right hypochondriac region a freely movable, pear-shaped tumor, often, but not always, very sensitive to pressure.

DISTENSION OF THE GALL-BLADDER.

The gall-bladder is most frequently distended through the obstruction of a duct by a stone, and the character of the symptoms largely depends upon the exact location of the impaction. Distension may, however, be due to other causes, such as an accumulation of calculi in the bladder, thickening of the walls to the extent of occluding the cystic duct, or by the closing of the outlet of the bladder through pressure from malignant disease. The usual and most frequent cause, however, as has been said, is an obstruction to the flow of bile by an impacted calculus in the cystic or common duct, the exact location of which must be determined by the symptoms present. This is not so difficult as might at first thought appear, for, as has already been said, if the obstruction be in the cystic duct, there is no interference with the flow of bile to the intestines, and consequently no jaundice. The symptoms are directly referable and confined to the parts immediately involved, and the question becomes simply one of the nature of the obstruction. When the impaction is in the common duct, the presence of persistent jaundice indicates this fact. It is plain from the foregoing that an enlargement or distension of the gall-bladder in and of itself gives, at best, but a faint idea of the operating causes affecting it, but when taken in conjunction with surgical anatomy of the parts, the symptoms occompanying it, the relative frequency of stone and the relative infrequency of malignant disease, as a cause of obstruction, our thoughts become fixed, almost intuitively, upon the possible existence of calculi in the ducts.

POSSIBLE CHANGES IN THE BLADDER AND CONTENTS.

It is but natural to presume that any marked interference with the physiologic function of the bladder must necessarily result in changes of a pathologic nature. This we find to be true, and we also find them, as a rule, in direct proportion to the amount of interference present. The character and extent of such changes depend somewhat upon the nature of the obstruction. Thickening of the bladder walls may be found as a result of a low grade of inflammatory action, or suppuration may follow a more acute type of inflammation, resulting from injury to the walls of the bladder by the presence of calculi. The bladder may contain but a single calculus and may be reduced to a size just sufficient to contain the stone. Ulceration of the walls is not infrequent and perforation may occur, allowing, when adhesive inflammation has been sufficient, the bladder contents to escape into neighboring organs—as the stomach or intestine, or even through the abdominal wall itself. This may occur without any serious results, but when the perforation permits the bladder contents to escape into the free peritoneal cavity, the results are disastrous. The fluid contents of the bladder that has been distended for any great length of time are not usually bile, but rather mucus, or muco-purulent in character. In rare cases the contents are decidedly purulent. These facts should be well borne in mind when considering the advisability of an operation, as the contemplation of the prob-

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ability of perforation of the walls of a bladder containing pus, with the possibility of peritoneal infection, is anything but pleasant and reassuring to either patient or doctor. The contents may also be thin and clear; the bladder then has a whitish appearance.

OBSTRUCTION OF THE CYSTIC DUCT.

When the cystic duct, from any cause, becomes completely obstructed, the outflow of bile, as well as that of the normal secretions of the gall-bladder, is prevented, and distension naturally follows, for it must be remembered that stoppage of the duct does not cause a cessation of the physiologic secretions of the bladder itself. The effects of this form of obstruction are purely local, as the obstruction in no way interferes with the free flow of bile from the liver to the intestine, through the hepatic and common ducts. There is no jaundice and the effects are limited to the disturbances excited by the inflammatory changes taking place in and around the gall-bladder and to the changes in the bladder contents. The condition, however, is one that is very far from being free from danger, as these changes may seriously endanger life and are usually very detrimental to comfort and health.

OBSTRUCTION OF THE COMMON DUCT.

This form of obstruction—fortunately rare—when present, presents one of the most formidable and difficult conditions to overcome. When due to the presence of malignant disease, either in the pancreas or other organs, surgical interference offers little encouragement, and when due to an impacted calculus, the ingenuity of the surgeon is often taxed to the utmost before the calculus is removed. The effort often fails of success. When the obstruction is absolute, pronounced and persistent, jaundice is always present; when but partial, the jaundice may be slight. When the obstruction is due to pressure upon the duct through the development of malignant growths in neighboring organs, the jaundice usually comes on slowly, and in a very modified degree at first; but it grows more pronounced as the development of the malignant growth progresses, and reaches its height when the powers of life show unmistakable symptoms of being nearly exhausted. In this connection it is well to remember that gall-stones and malignant disease have a marked predilection for co-existence and are frequently found in the same subject. In complete obstruction of the common duct by a calculus, the stone has succeeded in passing through the cystic duct on its way from the gall-bladder to the intestine. Having entered the common duct it there becomes impacted and successfully resists all nature's efforts at removal. In partial obstruction the stone enters the duct but does not become impacted. It moves or floats in the stream of bile, but fails to make its exit. It is not sufficiently large to completely fill the diameter of the duct, and might perhaps appropriately be called a floating calculus.

OBSTRUCTION AT THE JUNCTION OF THE HEPATIC AND CYSTIC DUCTS.

This form of obstruction is rare, but it nevertheless occurs. When present, it offers the same mechanical hindrance to the flow of bile towards the duodenum as would be encountered were the impaction located in the common duct itself. A very interesting case of this kind was reported by Dr. Root, of Chicago, in the *Journal of the American Medical Association*, May 25, 1895. In this case the autopsy revealed, among other interesting things, a calculus two inches in length, situated in the bile passage at the junction of the cystic and hepatic ducts. The gall-bladder itself was very much contracted, its walls very friable, and it contained but very little fluid.

DIAGNOSIS.

Leading up to the diagnosis of distension of the bladder, there will usually be found a history of repeated attacks or "biliary colic." This in a patient of full and sedentary habits and of an age of from forty to sixty years, presupposes the existence of gall-stones. A small pear-shaped tumor, ordinarily freely movable, and sensitive to pressure, will be found in the region of the liver. If this tumor be nodular and hard, with little or no sensitiveness, the presumption is that it contains a number of calculi; if soft, fluctuating and very sensitive, it probably contains fluid of some kind, forced, through obstruction of the natural outlets, to remain thus enclosed. If jaundice be absent, it points unmistakably to the fact that the flow of bile is uninterfered with, and that the obstruction

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is probably in the cystic duct. If jaundice be present, we are assured that the obstruction is not confined to this duct, but is to be sought for either in the common or hepatic duct. The enlargement of the gall-bladder may be mistaken for a floating kidney, pancreatic cyst, or for a tumor developed from the liver; but a careful examination of the suspected organs, combined with the history of the case, will usually be sufficient to make the differential diagnosis. In diagnosticating a floating kidney, special attention should be given to the shape as well as to the range and direction of mobility of the tumor; size also plays an important diagnostic role. In differentiating from cysts, our chief reliance must be placed upon the position that the tumor occupies, and upon the general history of the case. After having made the diagnosis of impaction or obstruction of the ducts, we must still locate the seat of obstruction, and in doing this we are largely guided by the presence or absence of jaundice.

TREATMENT.

The presence of biliary calculi in the system does not always necessarily demand surgical interference. In fact, many cases come under the observation of practitioners generally, where, aside from the pain and inconvenience attendant upon the occasionally occurring attacks of "biliary colic," the patients suffer no great disadvantage, and go on in fair, if not good, health to the ripening stage of man's existence. It is only when the presence of gall-stones steadily, continuously, and persistently interfere with Nature's processes that we are called upon to exercise our art with the view and in the hope that we may be able to overcome the pathologic and restore the normal physiologic conditions of the parts involved. I think, in the preseat state of professional sentiment on this subject, we are warranted in saying that no interference should be advised or encouraged where we are dealing with simple distension without any marked symptoms or constitutional disturbances. When, however, we have reason to believe that a suppurative process exists, the necessity for interference is imperative, and where our patients are the subjects of jaundice, even conservative treatment urges operation as the proper preventive remedy for inevitable future complications. Having decided to operate for the relief of the conditions described, what shall we do and how shall we do it? For seventeen years, or since the time of Marion Sims' successful surgery in this field, the operation known as cholecystotomy is the one that has been chiefly practised.

CHOLECYSTOTOMY.

This operation consists in opening the abdominal wall directly over the tumor; securing the gall-bladder; removing if possible the calculi, whether found in the bladder or in the ducts; and then uniting the edges of the wound in the bladder to the edges of the wound in the abdomen, thus leaving an opening through which the bile may freely flow. The operation is made by making a four inch vertical incision directly over the distended bladder. After the peritoneum has been opened and the gall-bladder brought into view, the space around the bladder should be packed, if possible, with some aseptic material, preferably sponges. If the gall-bladder be distended with fluid it should be emptied with an aspirator, a good-sized needle being used. In view of the fact that the walls of the bladder may be very thin and friable, great care should be exercised in handling it lest it be injured or ruptured to the extent of making possible the escape of its contents into the abdominal cavity—an accident that any surgeon should seriously regret. Even after the sac has been emptied, we are exposed to the danger of injuring its walls unless handled with great care. Forceps of too firm a grasp, used in holding the sac in position after it has been emptied or during its exploration, have in more than one instance done irreparable injury and should be avoided. After the sac has been emptied it is carefully drawn into the abdominal wound, the aspirating needle withdrawn and an opening sufficiently large to admit of free exploration is made in its wall by scissors. The finger being introduced, the interior of the bladder is explored, and if calculi be found they are removed. If but one stone be found it should be carefully examined for facets, with the view of ascertaining whether other stones do not exist in the neighborhood. Whether facets be found or not, the systic duct should now be carefully examined for obstruction, and if a calculus be found it should be removed. This is not always easy of accomplishment, as the stone may

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be so firmly impacted as to successfully resist all methods of removal. Occasionally the stone may be removed with a forceps, or its size being reduced by "chipping," it may be forced along the duct to the bladder. It sometimes becomes necessary to incise the duct at the seat of obstruction, that the stone may be dislodged. A case of this kind occurred in my own practice some few years ago, a report of which was published in the MILWAUKEE MEDICAL JOURNAL, of January, 1893. The gall-bladder having been opened a stone was found firmly impacted in the cystic duct, almost at its junction with the hepatic, which resisted every effort at displacement. An incision was made directly over the seat of obstruction and the stone was exposed. Even then it was removed only after it had been reduced to several pieces. (This is the broken calculus which I offer for your inspection.) After the removal of the stone, the incision was closed with four Lembert sutures and the patient made a good recovery. When jaundice is present an examination of the common duct must not be omitted. Here the stone may be found large enough to completely occlude the passage, or it may be sufficiently small to float in the stream of bile in the duct. In a paper read at the late Baltimore meeting of the American Medical Association, Dr. Fenger, of Chicago, reported three cases of the latter kind. Dr. Marcy, of Boston, reports two cases as having come under his observation. In those cases the stone had successfully passed the entrance into the duct, but had failed to pass into the intestine. Whether the stones be large or small when found in the common duct, it is usually a matter of great difficulty to remove them. It is deemed better practice to force them back into the cystic duct than to attempt to force them into the intestine; through the former channel they already have succeeded in passing; the attempt in the opposite direction has failed. Should we be successful in passing the stone from the common into the cystic duct, it can easily be forced along into the gall-bladder, from which it may be readily removed. In attempting the removal of a calculus from any of the ducts, the greatest care and caution should be observed. The walls of the ducts are very thin and delicate, and may be very friable. Any rough handling or forced efforts may injure, or even tear them beyond the possibility of repair. The progress of removal may be greatly facilitated by fixing the stone between the thumb and finger of one hand, and then by gradual and careful manipulation attempt to slide it along the canal towards the bladder. Sometimes the stone may be removed by a small forceps. The practice of attempting to crush the stone *in situ* by forceps or fingers, except where the stones are very soft, we believe should be condemned. It is an unsafe practice, often resulting in irreparable injury to the duct, putting the damage entirely beyond the reach of repair, and rendering hopeless what might otherwise have been a successful operation. The not very common practice of attempting to dilate the cystic duct with the view of removing a stone from the common duct, we must also regard in the light of a very questionable procedure. The obstruction being removed and the parts thoroughly cleaned and dried, the packing should be removed from the abdominal wound where it has served to keep the peritoneal cavity free from infection. The edges of the opening in the bladder are now to be fixed to the edges of wound in the abdomen. It is well to reduce the size of the parietal opening by a few stitches passed in the usual way through its walls. Many methods are recommended for suturing the bladder wound to that of the abdomen. Any rational method, when well executed, answers all purposes; it is only necessary to secure perfect coaptation and retain it by the necessary number of sutures, leaving an open communication between the bladder and the outer world. For a short time, at least, it is advisable to use a small rubber tube, inserted through the opening in the gall-bladder, as a sure means of efficient drainage. A dressing of any absorbent material is now placed over the wound, and the operation is complete. The dressings must be removed sufficiently often to insure a reasonable degree of cleanliness. As a rule, in five or six weeks, if there be no obstruction to the flow of bile into the intestine, the wound will close up; failing to do so, it is easily closed up by one or two sutures.

COMPLICATIONS OFTEN MET WITH NOT CONTEMPLATED BY THE OPERATION.

Experience has often demonstrated that, notwithstanding the high place that this operation

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holds in the surgical world, complications will often be met with that it cannot overcome. It sometimes happens that the gall-bladder is so atrophied that it is impossible to unite it, even with tension, to the adominal wall. This same difficulty will be met with in cases where the results of adhesive inflammatory action make it quite unsafe, if not impossible, to detach the gall-bladder from adjacent structures to which it has been adherent, with any hope of success. In cases where it becomes necessary to remove the calculi through incisions made in the walls of the ducts, narrowing of the caliber of the duct at the point of incision necessarily follows, thus impairing its integrity and diminishing the probability of the successful passage of subsequent formations. Finally, the operation makes no provision against the recurrence of the condition that it has been devised to remedy.

CHOLECYSTECTOMY.

The operation of cholecystectomy consists in the extirpation of the gall-bladder. This is accomplished by separating the bladder from the liver, ligating and cutting the cystic duct. The operation is made on the same lines as that of cholecystotomy, and is intended to overcome some of the objections to that operation. When the common duct is free and no obstruction is offered to the flow of bile into the intestine this operation is perhaps the preferable of the two, as it does away, when successful, with the formation of gall-stones, at least so far as the gall-bladder is concerned. The presence of the gall-bladder is not a recognized necessity to the maintenance of perfect health, and when diseased it certainly cannot be regarded as a very useful organ. The operation obviates the necessity of the biliary fistula and frees us from the dangers incident to a narrowed cystic duct. For some reason, not quite plain, the removal of the gall-bladder has not met with the same favor that has been extended to cholecystotomy, but we feel certain that with our present knowledge of aseptics it will in time argely, if not wholly, supersede the latter operation in all cases where the patentcy of the common duct had been established. We would here call attention to what seems to us, the very unwise and unwarranted practice of closing the wound in the bladder after the removal of its contents, allowing it to drop back into the peritoneal cavity and then closing the abdominal opening. This practice leaves, certainly, no biliary fistula; is a more sightly operation and perhaps adds to the appearance of things in general; but if the interests of the patient are to be subserved, we must not forget that in our efforts to do neat work we have failed to do safe work and the desired result has not been secured, for the unsuspected presence of a calculus in the common duct or any resistance to the flow of bile towards the intestine may back the bile into the weakened bladder, which, unable to resist the pressure, yields, allowing its contents to escape at will into the peritoneal cavity. The best that can be said of this practice is that it is being condemned by the best surgeons.

THE NECESSITY OF OTHER METHODS.

Cases are occasionally met with where neither cholecystotomy nor cholecystectomy can be practiced with success. I refer to that class of cases where, from any cause, it is impossible to unite the bladder with the abdominal walls and where the integrity of the common duct has been lost, either through pressure or through adhesive inflammation. While this unfortunate combination of conditions may be rare, it nevertheless occasionally presents itself, and when so presenting we should be prepared to meet it. A case of this kind came under my observation last year. On opening the abdominal cavity to search for the gall-bladder with the view of removing a calculus supposed to be lodged in the common duct, no evidence of a gall-bladder could be found. A very much enlarged liver occupied all the available space within the cavity. By the sense of touch the stone was located, apparently imbedded in the liver itself. By carefully separating the adhesions, and guided by the presence of the stone, we came down upon a small, thickened sac which proved to be the gall-bladder, within which was found this good-sized calculus, which I have preserved. The pressure of the diseased bladder, supplemented by the presence of the stone, had caused sufficient inflammation to take place in the common duct (against which they pressed) to entirely obliterate its canal. The adhesions existing between the atrophied, diseased bladder and the liver were such as to render it quite impossible to secure

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union in the usual way between the bladder and parietal walls. In this extremity an opening was made just at the ensiform extremity of the sternum; the integument was loosened from the subjacent tissues so as to make it freely movable; the stone was removed and the edges of the wound in the gall-bladder united to the edges of the opening in the freely movable skin, which, yielding to traction, was easily brought down to the position of the bladder, thus establishing a biliary fistula, the lining of which consisted principally of integument. At the close of the operation I was confronted with the pleasant (?) task of explaining to my patient why a *permanent* and not a *temporary* fistula had been established. The existence of such cases makes clear the necessity of some safe method by which direct communication between the liver and the intestines, through the gall-bladder, may be established. When an effort to secure this communication is contemplated, the operator is somewhat limited in his choice of methods, being compelled to select some one of the mechanical contrivances used for holding serous surfaces together, pending adhesions, or to secure union of the parts by suturing. In diseased conditions of the bladder the latter method is almost excluded. The drift of surgical sentiment seems to be against the use of mechanical means in the attempted establishment of this bile route. This sentiment, we are inclined to believe, is not based on sufficient clinical results to warrant us in assuming that it is absolutely in the right direction. We should not be too hasty in passing judgment, especially since only part of the testimony has been heard. Very satisfactory reports are on record of results obtained in this field through the aid of mechanical devices. Whether those records are based upon results obtained through operation upon especially favorable cases, we are unable to say, but until such time as their usefulness, or uselessness, becomes, through clinical experience, fully established, they are entitled to a fair and impartial hearing. In this connection we will hazard the statement that for this particular field of surgery, if a mechanical device of any kind is to be used, there is none so simple, so well adapted to the purpose, so easy of manipulation, and, withal, so promising in results, as the little contrivance known as the Murphy. "button." This very ingenious device is open to several possible objections, prominent among them, the failure of perfect union of the narrow line of coapted serous surface; failure of the button to pass from the seat of insertion through the intestines to the outer world, or the possible contraction of the fistula after the button had passed away. All these objections are serious, and should experience demonstrate that they are founded on fact, they would, of course, strongly militate against the use of the "button." Suturing of the gall-bladder to the intestine is, perhaps, the safer and better method of securing union, but, as it requires special skill, it should never be attempted by the inexperienced, nor even by the experieneed unless that experience includes a thorough theoretical knowledge of the recognized methods of uniting the hollow viscera as well as the possession of the necessary mechanical dexterity to execute them in a surgical and scientific manner. Many methods of suturing are recommended and practiced. They all have one principle in common—that of the "Czerny-Lembert" suture, or the coaptation and retention of the serous surfaces involved until adhesion has taken place. Dr. M. E. Connell, a member of this society, is entitled to credit for having greatly simplified and facilitated the operations on the hollow viscera. We believe that the "Connell stitch" stands to-day pre-eminently at the head of all methods devised for this work. The operation suggested and practiced by Greig Smith is worthy of the most careful study and attention. It was originally devised to dispose of the permanent biliary fistula resulting from a cholecystotomy and an obstructed common duct. An incision is made in the abdominal wall immediately below the site of the fistula, and through this opening the under aspect of the gall-bladder is satured to the intestine, the sutures passing through the serous and muscular coats, and enclosing a space of at least an inch in length. Adhesion of the coapted surfaces follows, so that in five or six days a fistulous opening may be established by simply incising the parts enclosed within the circle of sutures, and inserting a tube. As soon as the newly-formed fistula between the bladder and intestine is safely established, the tube may be removed and the abdominal fistula closed. The chief objection to this operation is the dangers incurred by unit-

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ing the intestine to the bladder, which, being anchored to the abdominal wall, must sustain the weight of the intestine and contents. From this partial review of the work attempted and accomplished in the field of surgery under consideration, it is plain that while much has been done, there still remains a large field for speculation. The successes of the past should encourage the efforts of the future, and if they be rewarded, even to the extent of overcoming *one* of the conditions that now remain unmastered, the reward shall, indeed, be great.

The Symptoms of Albuminurea in Pregnancy.

BY J. T. SCOLLARD, M. D.

Professor of Obstetrics, Wisconsin College of Physicians and Surgeons; Obstetrician to Presbyterian Hospital, Etc.

Read before the Milwaukee Medical Society.

As puerperal eclampsia or convulsions probably expresses the culmination of diseased conditions with causes varying at different times and in different individuals, so albuminurea includes groups of symptoms not due to one constant cause in all cases; hence such symptoms must vary at different times and in individual cases.[1]

The frequency with which albuminurea is met in pregnancy is set down with very wide variation by different authorities: thus Lang states[2] that 3 4-10 per cent. of all pregnant women have simple albuminurea, and that 1 5-10 per cent. of all pregnant women have albumin and casts in the urine. Dumas says one in six or seven gravid women is albuminuric, while Pinard found but three in eight hundred cases with albuminurea in the later months of gestation.

In regard to the quantity of urine in albuminurea, it is nearly always reduced in amount[3] the reduction varying from a slight decrease to complete suppression.[33] In the urine is found almost constantly albumin, from a mere trace to complete solidification of the entire bulk. Of one hundred and sixty-eight cases, but one showed no albumin in the urine.[6]

The albumin found consists of serum-albumin and paraglobulin. In marked suppression, paraglobulin is usually greater in quantity than the serum-albumin.[3] The presence of a large amount of serum-albumin is a more serious symptom than an increased quantity of paraglobulin.

Albumin is, according to Robert Barnes, the most significant symptom of kidney disturbance[4] in pregnancy. Godson says the presence of albumin in the urine of pregnant women indicates approaching eclampsia, and it has been shown that albuminurea may cause eclampsia without any apparent reflex cause;[5] hence, conversely, the occurrence of eclampsia[33] or convulsive movements is the most serious symptom of the albuminuric state with which we ever have to deal. All pregnant albuminuric women are liable to the development of this terrible symptom, eclampsia;[7] and it is found that the severity of the convulsions is in proportion to the degree of the albuminurea, and also that convalesence is found to progress in direct ratio to the disappearance of the albumin from the urine after labor.

As showing that the condition of eclampsia is a symptom of albuminurea rather than of uremia and as being essentially different from uremic convulsions, we have the fact that in the latter the temperature falls before death, while under the conditions obtaining in albuminurea and the convulsions following, the temperature is more or less elevated.[7]

The condition of the blood in albuminurea has received some attention. There is found more or less anemia—often very marked,[10] which accounts in part for the striking paleness[34] seen in serious cases. The blood has been found to contain kreatin and kreatinin in considerable quantity, which is not eliminated, either on account of the simple nephritis of pregnancy, or a chronic nephritis, or a hydronephrosis or hyperemia of the kidneys, or finally on account of retention of urine from pressure upon the ureters. These substances are deposited in the cortex cerebri and produce excitability of the motoric nerve centers.[11]

Another striking symptom because early and easily discernable is edema, an edema of the subcutaneous cellular tissue,[8] most marked and readily noticed in regions where this tissue is abundant and easily distended, as about the eyes,[34] on the backs of the hands, about the external genitals, etc. This swelling is usually as great in the morning as in the evening.[3] On observing such cases an increasing swelling of the face may be noted from day to day.[12] The edema is often marked all over the body, especially below the

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waist line; the legs may at times assume elephantine proportions—the labia may be so much swollen as to cause marked separation of the feet in walking, which is often difficult if not impossible in extreme cases.[13] The fluid of this edema is very slightly albuminous, while effusions into serous cavities are highly albuminous.[14]

Among the most definite and important symptoms of albuminurea during pregnancy are those referable to the eye. Exceptionally albuminurea may be very marked without any eye symptoms.[3] Usually acuteness of vision rapidly fails and there is concentric contraction of the field of vision, which is progressive; color perception is impaired. There may be no disease of the fundus discernible by the ophthalmoscope, constituting the reflex amblyopia of pregnancy.[3] Permanent blindness may result.[15] Amaurosis is found in some cases.[8] Retinitis albuminurica is a common occurrence.[3] This comes on chiefly in the latter half of pregnancy, and is often undoubtedly due to the pressure of the enlarged uterus upon the kidneys, producing parinchymatous nephritis. Retinitis albuminurica is characterized by white spots or lines, usually of a stellate arrangement, about the *macula lutea* region, and may be so severe that great destruction of vision is to be feared.[16] Retinitis, as before stated, is not always found in albuminurea, but when present is an unfavorable symptom.[3] Neuro-retinitis often exists in the early months of pregnancy. Retinitis albuminurica occurs in about 5 per cent. of all pregnancies.[16] In all cases of pregnancy the eyes should be examined with the ophthalmoscope, since the patients frequently make no complaints while eye troubles exist which can be detected by such examination before any disease of the kidneys is shown by the urine.[17]

Some gastric symptoms are noted which are clearly associated with albuminurea, among which is vomiting[33] occurring at a time when it usually is absent in pregnancy;[3] again nausea long continued,[8] when every other condition of the patient seems favorable to its cessation. As indicating that the condition of other channels of elimination has much to do with the condition of the kidneys, it has been observed by Flesch[22] that the albuminurea increases with the occurrence of constipation and decreases with its correction; this doubtless is not infrequent as pregnancy aggravates constipation which is but too common in women under any condition.

In many cases cough[3] has been observed, without a demonstrable lesion in the lungs, while in others bronchitis has been noted accompanied by a very troublesome cough. Dyspnœa[33 13 20] is a very serious symptom of albuminurea and is frequently caused by edema of the lung which comes on before labor. This condition often simulates pneumonia.[21]

At times muscular twitchings[23] are found during albuminurea, and without the supervention of eclampsia.

Headache[33] is usual in albuminurea, and of varying intensity.[23] Indeed it may be said that in pregnancy headache is an indication of kidney trouble with probably albumin[24] in the urine. The headache is usually accompanied by vertigo,[25] though vertigo may be present without headache.[26] Often the mental faculties are found to be obtunded,[10] the memory defective, the perception less acute.

In cases of severe albuminurea the placenta is found to contain cysts and white infarcts to such a degree as to interfere with fetal nutrition, even to cause death of the fetus.[27] This has occurred two weeks before labor.[10] In the kidneys of the fetus have been found a large number of hyaline casts and distended veins, infarcts of uric acid, intense congestion and transudation of serum.[28] In progressive albuminurea the fetal heart sounds are distinct at first, but grow more and more indistinct each day. To illustrate: A multipara pregnant, nearly at term presented symptoms of collapse, great anemia, feeble pulse with no obvious symptoms of hemorrhage. Placenta previa was excluded, but examination of the urine showed albumin, indicating a possible degeneration of placental vessels and of the endometrium, which was confirmed on the termination of induced labor showing excessive concealed hemorrhage, with partially detached placenta, due to degeneration of the small blood vessels of the placenta and endometrium, the result of a chronic nephritis, the first symptom of which had been the albuminurea.[29] Thus intra-uterine death of the fetus often occurs in albuminurea, and before the occurrence of convulsions.[3]

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Vinay[30] has found by the use of the sphygmomanometer an increase of arterial tension in pregnancy in cases of albuminurea only; hence if increased arterial tension can be demonstrated it becomes an important symptom of co-existing albuminurea and renal disease. Serious cardiac insufficiency is always found to accompany albuminurea in cardiac disease during pregnancy.[30]

In the kidneys of albuminuric gravid women are found simple intense congestion,[31] or intense congestion with transudation of serum, while there is no relation between the severity of other symptoms and the extent of pathological lesions in the kidneys.[32] Acute and chronic degenerative changes in the kidneys were found by Goldberg [8] in about 20 per cent., while Olshausen[18] found pathological changes in the kidneys of every case in which an autopsy was made.

While carefully noting the appearance and progress of the various symptoms enumerated the urine of the pregnant woman should be examined at least once in two weeks, both chemically and microscopically.

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Infection as a Factor in Nervous Diseases.

BY U. O. B. WINGATE, M. D., MILWAUKEE.

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Read before Central Wisconsin Medical Society, Janesville, Dec. 27, 1895.

The increase in the prevalence of nervous disease, which is generally acceded by the medical profession, has led to more careful and persistent researches in this department of human ills during the past few years than at any other period in medical history. Moreover, these researches have been, and are being, pursued in a more opportune period than ever before, for with more materieal upon which to work have come great improvement in methods of investigation and developments in other branches of medicine and science that have materially aided in the progress. It is true that about all that is known concerning diseases of the nervous system has been learned during the past thirty years, and to be convinced of the marvelous strides made in this department during that time, one only has to look into the flood of medical literature, now before us, relating to the subject. This advance has been so great that no less a man than Gowers has proclaimed that this progress constitutes an epoch no less salient than the great discovery of Harvey and that following the results of the invention of auscultation and percussion.

Much as has bean learned, however, we are but at the very threshold of what seemingly can be learned, and I know of no more enticing field, for study and research for one interested in the subject, than that which apparently is open relative to infection and its influence in this class of diseases.

It is not my purpose to treat this society as a class of medical students by dwelling on details in medical literature with which you may all be familiar, nor, I am sorry to say, have I any results of original researches to present, but I only desire, in a brief manner, to emphasize certain points that are, at the present time, being carefully and earnestly considered by students in this special field of observation, and that seem to me to be of great importance.

The discovery of certain germs now known to play a part in the causation of many diseases, have opened the way for exceedingly interesting

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studies. It is generally admitted by almost every one familiar with the subject at the present time, that certain infectious diseases may play a very important part in the causation of nervous affections. Among these diseases may be named tetanus, rabies, malaria, actinomycosis, lepra, syphilis, gonorrhœa, tuberculosis, diphtheria, typhoid fever, eryesipelas, mumps, influenza, pneumonia, the acute exanthemata, and those in which the piogenic organisms exist.

Now, disease of the nervous system may not, in all cases, result directly from these infectious diseases, but may result indirectly or remotely, and the poison may be primary or secondary; that is to say, the disease may result directly from the germ itself, or from the poisons or toxines generated by the germ in the system, or it may result remotely from conditions of debility that render the system unable to resist the invasion of disease-producing micro-organisms.

It is not fully proven that all of the diseases hereinafter named may be caused by infection, but it is exceedingly probable that many of them are, if not all, as for instance, neuritis, Landry's disease, poliomyelitis, myelitis, chorea, some of the cerebral palsies of children, disseminated sclerosis, herpes zoster, locomotor ataxia, etc., etc., and very probably some of the mental diseases.

It is becoming to be a generally accepted fact by neurologists, that the cerebro-spinal membranes furnish a most excellent place for the habitation and breeding of certain pathogenic bacteria. If this be so, there can be no question concerning the evil results that may follow. It is necessary, however, in all of these advanced steps, to watch theory carefully and not to allow our enthusiasm to go beyond the limit of most rigid and careful scientific observations, and to remember the value of a wholesome conservatism. The field is a fascinating one, and undoubtedly many claims will be set up that more careful investigation will prove to be based upon insufficient and unstable foundation. The fact that certain pathogenic bacteria have been found in diseased tissues, constituting diseases of the nervous system, may not be absolute proof that they are the cause of the disease, for it is a well-known fact that these bacteria are constantly found in healthy individuals where no established disease exists, as for instance, the germs of diphtheria and tuberculosis, but it is reasonable to suppose where we have an increase or multiplication of these germs in certain pathologic conditions, knowing, as we do, some of the results produced by the toxic products they generate, that they must have some influence in the pathologic processes going on.

The several epidemics of nervous diseases that have been studied and reported within the past few years, have led observers to become intensely interested in this subject, as for instance, epidemics of cerebro-spinal meningitis, in which the diplococcus of pneumonia has figured very extensively, having been found in large numbers in the inflamed tissues; also epidemics of myelitis, poliomyelitis, and other forms of nervous diseases in children which have evidently been infectious and with the history of which you undoubtedly are familiar.

The fact that these pathogenic bacteria may, in certain conditions of the system, invade almost any part of the human organism, leads us, naturally, to conclude that the results of their operations may, in many instances, be productive of disease. It is well known that Roger, Thornet, and Masselin, Bourges, and Vincet produced poliomyelitis in rabbits and guinea pigs by inoculation of the coli-bacilli, streptococcus of erysipelas, modified by culture, and many experiments have shown that myelitis in various forms can be induced in animals by the use of the products of infection.

At the congress of medicine held at Bordeaux in August last, Grasset claimed that "All the infections have the power, whether by their microbes or their toxines, to engender myelitis at divers phases of their course." He claimed that "myelitis may follow measles, scarlet fever, typhoid fever, etc., and be caused by the specific microbe or its toxine, or the streptococcus, staphylococcus or coli-bacillus infection may find the soil prepared, and inaugurate the inflammatory mischief." A large number of experiments, conducted by competent observers, seem to harmonize with these statements, and it is suggestive of much.

The fact that certain diseases of the nervous system are subject to self-limitation, harmonizes with the theory of the bacterial origin of such diseases, and may be accounted for on the ground

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that the bacteria, or the effects of their products, has become extinguished; in other words, by the hygienic conditions and treatment of the individual, the enemy has been met in open combat and defeated by the power of resistance thus established. The enemy may, however, have accomplished its work to that extent that irreparable and permanent injury has resulted, or too often is only held at bay for a time, in which it seems to obtain reinforcements, and then renews the attack.

The advance along the line of these observations has been such that one scarcely knows where to halt. Already the question has been seriously asked, if certain forms of insanity have not specific germs that are acting as a cause of the dethronement of reason, and it has been suggested that there may be specific micro-organisms acting as a cause of criminal acts.

These questions have driven enthusiasts, on one hand, to some very extravagant claims, and the extreme conservatives, on the other, to utter words not best suited to ears polite, and to believe that the advocates themselves are either fools or insane.

But, if we consider the matter in a calmer mood, we will find much to observe that has not appeared to us before the discovery of certain specific micro-organisms, and, while we are unprepared to claim that certain forms of insanity, as for instance, acute mania, confusional insanity, melancholia, paralytic dementia, mental disorders of pregnancy, and the puerperal state, and especially criminal conditions, have a specific germ that may act as a cause, we are, I believe, justified, in our present state of knowledge, to suspect that certain forms of insanity, and especially those forms that are termed post-febrile, may be, in many instances, very materially influenced by, if not the result of, infection.

I have, thus far, spoken more particularly relative to the infection that comes from without the body, but much might be said concerning toxic products generated within the body, or auto-infection.

Since the lectures on "Auto-Intoxication in Disease, or Self-Poisoning of the Individval," by Bourchard, have appeared in print, a new world has been opened to those interested in this subject, and it has appeared that auto-infection may play a very conspicuous role in the etiology of nervous disease.

It is quite easy to conceive, when we take under consideration the action of certain germs and their products, that certain conditions of the alimentary canal may exist in which toxic agents can be easily produced, absorbed, and taken to distant parts, to produce pathologic conditions, or reduce the power of resistance to that extent that it makes it easy for bacteria, or their toxic products, to inaugurate mischief. Then, again, the toxic products of the effete matter, which is constantly being eliminated by the system, and especially through the processes of excretion and elimination of urea, and other products eliminated by the urine, also the effete matter eliminated by the skin, undoubtedly may, with the large amount of effete matter eliminated by the alimentary canal, under certain conditions, not only produce toxic products that may be of incalculable mischief in the production of certain pathologic conditions directly, but, indirectly, may furnish the best possible soil for the growth of pathogenic bacteria, which may be taken in from without.

I have refrained from saying anything relative to toxic agents, other than those produced by bacteria, or such as may result from certain conditions within the system, such as alcohol, lead, arsenic, and the various substances which produce toxic effects when taken into the system in excessive quantities, and are well recognized now to be, in many instances, causes of disease of the nervous system.

The matter of treatment of diseases of the nervous system requires our most earnest consideration. It is a well-known fact that treatment in times past, in this class of diseases, has, in the majority of instances, been of the most discouraging character. If the claims being put forth by bacteriologists and neurologists at the present time are true, and the serum-therapy continues to maintain its importance in the future that it seemingly is doing in the present, we certainly can hope for great results in the treatment of many of these diseases in the future, which, in times past, have been considered utterly beyond the skill of the physician to treat. There are three very important lessons, it seems to me, for the physician at the present time in treating diseases of the

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nervous system constantly to keep before him: First, the importance of prevention—for herein lies the salvation of many of our patients. It should be the duty of the physician constantly to educate his patients, to the best of his ability, in

e importance of so living and caring for themselves, that they may not neglect any point in the prevention of these diseases, and a familiarity with the infectious bateria and their functions, will suggest to him lines upon which he can advise his patients to their advantage.

Second. when disease has appeared, the earliest possible diagnosis should be made, for it must be borne in mind that these processes, in many instances, advance rapidly, and, unless an early diagnosis is made, much time is lost and damage done, and in too many instances the damage may have gone on to the extent that repair is impossible, even if the disease can be checked.

Third, the importance of early treatment, which necessarily follows an early diagnosis, is very great, and, in selecting the course of treatment, it occurs to me that we should not lose sight of the general principles which have prevailed in the practice of medicine for so many years. In this respect some of our oldest practices loom up before the modern student as being of the greatest possible value, especially to those who recognize the importance of keeping the human system active in the processes of nutrition and elimination; the practice of evacuating early and thoroughly the ailmentary canal, thus sweeping out of the system a large amount of bacteria and their products that may accumulate under certain conditions; the importance of stimulating the eliminative action of the kidneys and skin; and the importance of inhaling plenty of pure air, and maintaining good hygienic surroundings, in the early stages of these diseases, cannot be too strongly impressed upon the medical mind. Then, if perchance we are fortunate enough to have remedies which we can use that will overcome the effects of bacteria and their toxic products, in the antitoxines or other similar agents, which now seems probable, we shall be fortunate indeed.

204 Biddle St.

THIS journal and cloth copy of Antisepis and Antiseptics (Buchanan) one year for $1.50.

Bacteriological Review.

BY V. A. GUDEX, M. D.

Professor of Bacteriology, Milwaukee Medical College and School of Dentistry, Milwaukee.

EXAMINATION FOR TYPHOID FEVER BACILLI.

A microscopical examination for the detection of the typhoid fever bacilli is of no value for diagnosis in typhoid fever. The germs do not appear in the fæces before the tenth day, and often not before the fifteenth. Before this time they are found in the patches of Peyer in very large numbers, also in the mesenteric glands, spleen and liver. By puncturing the spleen a pure culture may be obtained, but the danger in performing this operation is greater than that of the disease, although this proceedure is recommended by some.

Where the bacteriological examination is of greatest importance is in the water and food supply. This is both a complicated and difficult task and does not always lead to positive results. Wherever the dejected typhoid fever bacteria are found, the bacillus coli communi is also present. The close resemblance between these two germs is what many a time leads to error, as the following comparison between the two will plainly indicate:

TYPHOID FEVER BACILLI.	BACILLUS COLI COMMUNI.
1. Microscopical appearance, growth on agar, and on gelatine.	1. The same.
2. Growth on potato,—a clear transparent growth covering the surface of the potato, which becomes brownish in time.	2. A thick brownish circumscribed layer.
3. Develop in a ½% solution of carbolic acid.	3. The same.
4. Develop well in milk without producing any visible change in the same.	4. Curdles milk.
5. Does not.	5. Produces gas in a few hours at blood temperature in presence of peptone.
6. Indol reaction negative.	6. Indol reaction positive.
7. Is very motile.	7. Not quite as active as the typhoid bacilli.

The following isolation method from water is usually employed:

℞	Pepton	1.0 gm.
	Salt	1.0 gm.
	Carbolic acid	0.5 gm.
	Distilled water	100,0 gm. M.

To the solution add ten to twenty drops of the suspected water, place it in the incubator and see

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if the water becomes turbid. The carbolic acid will destroy many of the other germs, but the typhoid bacillus (coli communi as well) will develop. From this culture, plate cultures are made. Only such colonies are selected for examination in which the bacteria possess great motility. They are then stained and at the same time undergo the differential tests with the bacillus coli communi.

STROGANOFF states in his essay on "*Bacteriology of the female organs of generation*," the following:

1. The cervical canal is as a rule sterile whether in pregnancy or not.

2. The external os prevents the entrance of germs into the canal.

3. The cervical mucus has bactericidal properties.

SHOULD THE OLD TREATMENT STILL BE CONTINUED IN CONNECTION WITH THE ANTI-TOXIN TREATMENT IN DIPHTHERIA?

Some practitioners have such good results with anti-toxin that they entirely discard the old treatment. This may in some cases produce serious results. The virulence of the Klebs-Loeffler bacilli is considerably increased whenever a mixed infection with streptococci occurs. There are two experimental proofs for this.

First. Cultures of diphtheria that have lost their virulence will regain it again on injecting a streptococcus culture.

Second. A given quantity of anti-toxin that counteracts the fatal dose of diphtheria is altogether insufficient if a streptococcus infection is induced.

It must also not be forgotten that the anti-toxin is occasionally rapidly eliminated without producing any effect upon the tissues. This, of course, can be remedied by a second dose of anti-toxin. By using the antiseptic treatment, the diphtheria bacilli are somewhat robbed of their virulence, and if the old adage remains true that "an ounce of prevention is worth a pound of cure," the old antiseptic treatment still holds its place as an indispensable adjunct.

A FEW PECULIARITIES OF THE KLEBS-LOEFFLER BACILLI.

The diphtheria bacilli die very rapidly whenever they become dry, but in presence of moisture they may live and preserve their virulence for months. If infection takes place through the air at all, it can only be at a very limited distance from the patient. Dry dust is perfectly harmless. Infection is carried from one individual to another through dishes, playthings, napkins, and pieces of membrane expectorated on the floor.

A 1:1,000 solution of bichloride of mercury will destroy a thick layer of diphtheria germs in fifteen or twenty seconds; while a five per cent. solution of carbolic acid, five per cent. potassium permanganate or ten per cent. potassium chloride does not affect them in one minute.

In an article in the *Centralblatt fuer Bacteriologie* Dr. Achille Sclavo, of Rome, Italy, gives an account of successful treatment of anthrax with serum obtained from sheep which were prepared according to Pasteur.

Alcoholism in France.

Dr. Barthes, in a report read before the *L'Association Francaise pour l'Avancement des Sciences*, at its late meeting in Bordeaux, gives some very discouraging statistics concerning the ravages made by alcohol in France. In some communes, the mortality among the infants of alcoholic drinkers has reached as high a percentage as 62 per cent. of those under the age of two months. According to the doctor, the great abuse or consumption of alcohol began in 1855, when there was an almost total failure of the wine production. From the statistics of 200 towns, there is noted a great and steady increase of infant mortality, as well as a notable increase in the number of still-born, which have been traced as being directly due to the abuse of alcohol. The effects of this increased use of alcohol upon the physique has also greatly increased the number of exempt from army service. The drain upon the finances of many departments is on a yearly increase, due to the increasing number of the alcoholic insane which fall to the public charge. Dr. Barthes considers the use of wine as an antidote or preventive to that of alcohol, basing his opinion upon ten years' observation in the Eastern Pyrenees, where wine is exclusively in use and where he never encountered a single case of alcoholism.

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Translations.

Dry Pulmonary Pleurisy, Complicated with Diaphragmatic Pleurisy.

BY PROF. JACCOUD, AT LA PILIE.

The girl of whom I wish to speak to you today is a striking example of those cases in which, if the diagnosis is made early and accurate, permits us to save the patients, for, we can say it with certitude, if we had not made our diagnosis in the beginning, if, consequently, we had not been in a condition to apply our treatment immediately, the young girl in question would now, perhaps, be dead. This case then teaches a lesson which is exclusively its own. It is one of general bearing applied to a multitude of circumstances, and for that reason I lay so much stress on this point.

The little patient is 15 years old: she entered our service in the evening of June 13th. I saw her next day and found her in the same condition. What struck me had struck the other persons who had seen her on the previous evening; it was a violent dyspnœa, not quite an orthopnea —she could lie slightly with her head propped up very high—but, I repeat it, of a very great intensity. Respiration was superficial and served hematosis but little, as it usually happens in those cases.

The expression of her face was anxious. She suffered at the same time of thoracic pain on both sides, but especially so on the left. On entering her temperature was, in the evening 39.8°C., next day 38.6°C.

Having interrogated her, we learned that she became sick only the day before. But for several days, perhaps since a week, she was troubled with a very intense cough, but which permitted her to continue her work. Only on the 12th of June, in the evening, she felt worse and the following morning was unable to resume her work.

It is evident that during the first several days of the disease nothing pointed to the ulterior gravity; therefore there was a conversion from the 12th to the 13th. On the 12th she worked until evening; on the 13th in the morning absolute impossibility to work. We are present, then, at a phase, in which an accident, in appearance without importance, became transformed into an incontestably grave disease.

I have already mentioned some of the symptoms presented by her: high fever, intense dyspnœa, anxiety and thoracic pains predominating on the left side.

Well, in presence of those symptoms, and especially of that dyspnœa, what idea ought to be awakened in the physician's mind, before he begins his examination and directs his investigations? Of course, I do not speak of acute diseases of the respiratory apparatus. One will think of that, that is certain. What is important to know is, that other pathological cases exist which have no kind of relation with the affections of the respiratory apparatus and which are apt to cause very intense dyspnœa—the non-febrile dyspnœas are eliminated, of course. What are those cases? They are first the eruptive fevers, and especially small-pox. We too often forget that these diseases in the period of invasion may determine a very violent dyspnœa and that from *the very commencement;* dyspnœa that may go to the most complete anxiety.

That is the first group.

The second group is of a quite different order; it pertains particularly to the feminine sex. Bernutz and Goupel first called attention to the fact that the beginning of menstruation may be accompanied by exactly the same symptoms: high ever and intense dyspnœa. These symptoms may be present as well in young girls who menstruate for the first time as in those who had already menstruated.

The pathological relation of dyspnœa with menstruation is demonstrated in an incontestable manner by this fact that dyspnœa as well as fever disappear the moment the menses are established, and that with very great rapidity in the period of from one to three hours. Here dyspnœa dissipates exactly in the same conditions as in variola, where it is forced away by the appearance of the first papules. The same phenomena may present themselves in women of a certain age, but much more rarely. By this rapid view, you see that in presence of an intense dyspnœa, especially in the female sex, there is to consider, besides the acute disaeses of the respiratory apparatus, two

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orders of affections: the eruptive fevers and troubles of menstruation.

Being given the number of days required for the period of invasion, did not permit me to think of an eruptive fever, and I first stopped at the idea if we could have any menstrual trouble which provoked the dyspnœa, and my interrogatory was directed from that side. But, soon I abandoned this first hypothesis, and you will readily understand why. I learned that our patient had had her menstrual period. This was on Thursday and she had her menses on Sunday. Therefore this is a disease of the respiratory apparatus.

The first stethoscopic examination did not give very efficacious results. Râles were heard on both sides, moist râles, and that was all. We might have said that it was a simple bronchitis of the middle-sized tubes, and explain the dyspnœa by a quite special and individual irritability. Had we made this diagnosis we would have committed a gross error, so much more grave as it would have been prejudicial to the patient. The dyspnœa as present in this little girl could not be explained by a bronchitis so long as it had not involved the bronchial capillaries, but we found no sign of the latter disease. It was necessary to repeat the examinations with pertinacity in order to arrive at a positive result. That is what we have done.

And, in fact, if we found only râles in the superior and middle parts of the lungs in bringing the ear further down over the lower part, we noted *plueral frictions*. These frictions, of mean intensity, were well heard in front, on the side and behind. I will add—and that is, as you know, a fact of great importance—that these frictions extended *clear to the bottom*. It seems at first view—and against this error I rise with force—that the demonstration of the friction sounds should have made it sufficiently clear to make the situation absolutely certain.

Well, no! This verification does not give us enough explanation, and the physician who would commit this error would manifest a very incomplete instruction. You must know that when there is dry pulmonary pleurisy extending to the base of the lung—that is the case here—there is also at the same time *diaphragmatic pleurisy*. This pleurisy is dry or humid, as the pulmonary pleurisy is dry or moist. *This is a fact which has no exception.* In all the cases in which you will have verified frictions extending to the lower limits of the lung you can affirm that there is a diaphragmatic pleurisy. Now that we have established this fact, the situation no longer presents obscurities. Everything becomes clear. The dyspnœa is explained in an absolutely sufficient manner by the existence of the diaphragmatic pleurisy.

You very well know, and I need not tell you, how grave is diaphragmatic pleurisy with effusion, how sombre the picture is. This gravity is less, from the point of view of the issue for dry diaphragmatic pleurisy, but on the condition that the diagnosis is made early. If you mistake the relation of pulmonary pleurisy with diaphragmatic pleurisy, you will give time to the dry pleurisy to transform itself into a pleurisy with effusion, and then your patient finds himself, by this very fact, in a singularly aggravated situation.

As soon as you observe the existence of the semi-girdle of friction more or less complete, going even to the pleuro-pulmonary furrow, fully admit the diagnosis of diaphragmatic pleurisy. Even in the cases in which the dyspnœa is less intense, you must not hesitate nor allow yourselves to be turned from the true way.

I cannot too often repeat it, make your diagnosis boldly and act accordingly. You understand that the important point of treatment consists in *avoiding* effusion at any price. How did I act in our case?

I gave no medicine except a single potion of Todd. To ease the thoracic pains complained of by the patient I had a vesicatory applied at once, besides we ordered dry cups to the lower members and base of thorax, and submitted the patient to the milk regimen. Next day the fever fell and disappeared completely the day after; dyspnœa diminished from day to day, and now the patient is completely cured of her pleurisy. I am going to return, directly, to the traces the disease has left. Before that I would like to tell you a few words of the cases in which diaphragmatic pleurisy presents itself alone and there is, consequently, on stethoscopic sign of a nature to awaken your attention.

You auscultate the lungs in vain, you hear

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nothing. In these cases the situation is extremely dangerous. You must make your diagnosis in basing yourselves on the symptoms and especially on the dyspnœa. If, after a minute interrogatory and a careful examination, you can discover no cause for this dyspnœa, you ought to make the diagnosis, diaphragmatic pleurisy. There exists also a sign, extremely important. I will speak of *the retraction of the hypochondrium in the whole region attacked*. This retraction indicates, to you, an obstacle to normal respiration, and, consequently, an inflammatory process of the diaphragmatic pleura.

I return again to our little patient.

I have told you that she was radically cured. The disease is ended, but this knowledge ought not to be considered satisfactory. You must go further and determine in what manner the pleurisy terminated, by resolution or by adhesion? If by resolution, all is well; but if by adhesion the process ended, the situation is wholly changed, and, in a moment, I am going to tell you the unhappy consequences of that termination.

You must, therefore, pre-occupy yourselves with the condition created by the disease which has just terminated. If you cannot respond immediately to that question, wait, be patient, see your patient several times if so required. Generally, you can respond at once, and in our case particularly I say without any kind of reserve that the pleurisy ended by adhesion.

And why so? you will ask me.

Because in the region which was occupied by the friction sounds, *the normal sonority has not been restored*. If you percuss that region, especially in the lower quarter, you will find an incontestible flatness there. And what will give you this change if not the false membranes? When the latter are condensed, organized, as we say, they increase the local vibrations; but here, as the false membranes are scarcely formed, instead of augmenting, they *diminish* the vocal vibrations.

Voila, then, what is the situation?

Our little patient has had a dry diaphragmatic pleurisy which endangered her life. This pleurisy terminated by recovery, but left unfortunate traces, adhesions of the lungs with the ribs on one side and with the diaphragm on the other. It is on account of this adherence that you observe in her a retraction of the hypochondrium to the extent of three or four finger-breadths.

When the false membranes will have become organized finally, a veritable suture, a firm union, will form between lungs, ribs and diaphragm. At the site of this costo-pulmonary adhesion which may rise more or less high, there will no longer be a pleural cavity, of course, the action of the lungs will be very much compromised, and consequently hematosis, carried on under abnormal conditions, will be very insufficient.

Suppose, now, that this little patient be attacked some day by a pleurisy with effusion. What will happen then? The liquid being no longer able to occupy, as usual, the lowest places, will be carried upward more or less high, and will thus modify the result of the stethoscopic examination. That result will be false, because one will believe a large quantity of liquid is present when there will be very little of it.

That is not all.

The effusion, not having sufficient room, will press on the lungs, will force it back and completely dislocate the normal relations of the intra-thoracic organs. This dislocation will be extremely grave, so grave that it may cause death if we do not intervene in time.

There are the two first points. The other consequence:

If one is not posted, one will prepare to make a puncture at the place of election, that is, in the lower part where there is no liquid. And do you know what is the consequence, the inconvenience of that puncture? *The immediate death of the patient*.

In this condition they have fallen [tapped] into the peritoneum, the spleen, and, in one case in which the diaphragm had been carried above the sixth rib, *into the left ventricle*. You see now how delicate an operation thoracentisis is. Before attempting it, you must inquire, if, perchance, the patient had not had an attack of dry pleurisy before, which might have left some traces. If you learn of a previous existence of pleurisy, be mistrustful. Do not make a thoracentisis suddenly, and first have recourse to exploratory puncture with a Pravaz syringe.

It is very easy to be deceived, seeing that the old and thickened false membranes can give a

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flatness as completely as can an effusion. To avoid the error, watch the patient's respiration. What do you observe? A reversal of the normal respiratory movements. During inspiration there is not an amplification of the thorax that you will observe, but, on the contrary, a retraction. This respiratory retraction indicates only a paralysis of the diaphragm, which is not sufficient to affirm the existence of adhesions being given that the effusion may determine the same paralysis.

To be able to affirm the existence of adhesions, you must have verified another sign that I have described in a note communicated to the *Academie de Medicine* in 1879. I wish to speak of the *concentric retraction of the ribs themselves*. If you find this sign, you must not hesitate another moment. Your diagnosis will be of absolute exactitude, the concentric retraction of the ribs themselves during inspiration being the *pathognomonic sign* of old adhesions.—*L'Independence Medicale, 1895, No. 3.* WENZEL, *Translator.*

Neurasthenia.

BY CHARLES SCHAPER, M. D., FRANKLIN.

By the term *neurasthenia*, we understand an exhausted condition of the nervous system. We have in this condition phenomena of irritation without being able to discover any anatomical changes in the nerve structure.

It is the nervous system alone (brain, spinal cord, ganglia, and conducting nerve fibres going from these centers to the various organs of the body and returning to the same) which establishes a unity in the animal and human organism and maintains its functions; all joy and every pleasure, all sorrow and every pain we experience, reaches our consciousness by way of the nervous system. All activity we develop is through the nervous system. Consciousness itself and its manifestations are dependent on the central nervous system. All advances in medicine, art, culture, have for their prerequisite a strong and healthy nervous system. As all functions and advancements are dependent on the nervous system, it is no wonder that disturbances of it are of frequent occurrence, and that they arouse and deserve the interest of the physician. I mean the so-called functional diseases of the nervous system.

Neurasthenia is said to be an American disease. Dr. G. M. Beard, an American physician, was the first one who gave an accurate and elaborate description of this disease, *i. e.*, as far as this is possible from its numerous phenomena.

Neurasthenia, hysteria, and hypochondria are the most numerous of the functional nervous diseases; they are often found in the same individual; the first is often the cause of the second, or third, or both.

Neurasthenia may be divided into three classes; cerebral, spinal and visceral; but as we usually find symptoms of all three classes in the same individual, we will not consider them under separate heads. The most prominent symptoms of neurasthenia are, extreme weakness after exertion, great exhaustion after work which before could be performed with the greatest ease; increased irritability, timidity and sleeplessness. If a healthy man has made a long foot tour, it is perfectly natural for him to feel tired and exhausted, but this will completely disappear after sufficient rest. But if this exhaustion already occurs after slight exertion and does not entirely disappear after sufficient rest, it is pathological. Every one of us knows that, after severe mental exertion and sleepless nights, we feel exhausted, have pressure and pain in the head. In a healthy individual this will soon disappear after rest. If it does not, if such a condition persists after sufficicient rest, it must be considered pathological. If anxiety, sorrow, great responsibility, cause sleepless nights, we cannot consider this strange; but if such is the case after ordinary routine work, it cannot be perfectly normal.

A neurasthenic patient, especially if excited, can perform almost the same work as a healthy person, but he is very soon tired and exhausted.

Although neurasthenia is closely related to hysteria and hypochondria, and often associated with them, there certainly are, especially in plain cases, definite and distinguishing symptoms. In hysteria we have the so-called nerve storms, sudden disappearance of symptoms, such as pain, paralysis and convulsions, and it occurs more frequently in females. In hypochondria we have not the marked exhaustion, it is not caused by overwork, which is so frequently the case in neurasthenia; suitable employment will often lead to a speedy and complete cure; a busy man will seldom become a hypochondriac.

CAUSES OF NEURASTHENIA.—It is most prevalent among brain workers, and I have been told by a noted specialist that it is of frequent occurrence among physicians. We

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need not wonder at this. He is often put in trying positions, has irregular meals, long drives, etc., without the necessary rest. He is not only put under severe mental strain, he is often at the same time put under severe physical strain, which are the most potent factors in causing neurasthenia. But it certainly is also found among laboring men, farmers, etc.

Physical work alone will not cause it, unless associated with mental worry. Influenza is frequently the cause of nervous symptoms to which the term neurasthenia can properly be applied. Sexual abuses, alcohol and excessive use of tobacco will often cause neurasthenic conditions.

It is of the utmost importance to be on our guard in our diagnosis and prognosis in these cases. I will try to illustrate this in the following two cases:

CASE I. Female, aged twenty-two, complained for a number of months of weakness in her lower limbs, especially after she had walked a short distance, rheumatic pains, abnormal sensations in lower extremities, such as numbness, crawling, the latter mostly on anterior surface of thighs. Her gait was at times slightly dragging, tendon reflex somewhat exaggerated; she was constipated, no bladder trouble, menses regular, no disturbance of visual apparatus. I went with her to a noted specialist, who diagnosed her case neurasthenia. Six months later he called it an organic disease of the spinal cord, which proves to be the correct diagnosis.

CASE II. Male, aged forty-one, had influenza in the fall of 1893, since which he has never regained his former health. When he consulted me, seven or eight months after his influenza, he told me that he had been to a number of physicians; two of them, certainly able men, had told him that he had a disease of the spinal cord, which of course, greatly alarmed him. He complained of great weakness and was easily fatigued after walking, had abnormal sensations in feet, anterior surfaces of thighs and along the spine, such as anesthesia, hyperesthesia, hot, cold and burning sensations. He has at times palpitation of heart, loss of sleep, disturbed appetite and distress after eating. He looks strong and healthy, but somewhat nervous. Tendon reflex normal or slightly exaggerated, no eye symptoms, patient is perfectly stable when standing with his eyes closed, no trouble in walking in the dark or on an uneven surface. At present patient has improved in every respect, but there are still some of the symptoms present.

Treatment of neurasthenia; rest, good food, tonics, electricity and baths.

It is neurasthenia which has helped our sanitariums to such an unusually flourishing condition. These institutions are, of course, the proper places for these patients. Improvement is apt to show itself soon after they have entered these institutions and a few weeks' rest and proper feeding here will often do more than six months' medication at home.

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Long Survival After Injury of the Spinal Cord in the Cervical Region.

Dr. James L. Kent, of Bertha, Va., gave the notes of a case of rupture of the posterior common ligament between the sixth and seventh cervical vertebræ. The cord was normal except for a space of about an inch, beginning opposite the articulation of the body of the sixth or that of the seventh cervical vertebra, and extending upward to near the origin of the sixth cervical nerves. For this distance the membranes of the cord were not broken, and showed only slight signs of an old inflammation; but the substance of the cord was of the consistence of thick cream, and extended from the roots of the nerves as they were severed, leaving nothing but the connective tissue and membranes, which formed a thin, flabby connection for the two ends of the cord. From the evidence at the time of injury and at the autopsy, it was concluded that the weight of the body was thrown on the forehead in such a way as to lift the sixth vertebra up and slide it back over the seventh, as there were dirty cuts on the forehead and nose, and the posterior common ligament was torn through, while the ligamentum nuchæ was intact. The patient lived seven weeks after the injury.—*Virginia Medical Monthly*, October, 1895.

UNEQUAL dilation of the pupils is regarded by Dentree as a sign of great value in the diagnosis of pulmonary tuberculosis. It is present, he says, in the majority of cases of this disease.—*Lancet Clinic*.

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W. H. NEILSON, M. D.

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Medical Fees.

The doctors of Janesville have adopted a new scale of prices and taken measures to protect themselves from dead-beats. This is commendable, as too much precaution cannot be taken against the genfry who never have the least idea of paying their bills. With the same end in view various schemes have been entered into in Milwaukee, but all have fallen through, chiefly we believe from lack of unanimity on the part of the physicians, who never were known to be as a unit for any one thing, no matter what interests were involved. As far as fees are concerned, each one charges as he sees fit, and the fees therefore exhibit striking divergencies, ranging for calls from twenty-five cents, medicines included, to five dollars. Personally we are not in favor of fixed prices for services, but no fee should be so low as to compromise one's diginty. Where circumstances are such as to preclude the charging of a respectable fee, it is far better to not charge at all, making up the deficiency from those who will feel that they have been doing the handsome thing by employing a physician who comes high.

Words Again.

In advocating simplicity as the key to powerful writing and speaking, in our last number, we wrote in a general way, there not having been any particularly glaring offense brought to our notice. Since then we have been especially interested in noticing the number of extravagant words that have crept and keep creeping into our medical language. It is perhaps allowable to allude to a sharp spoon as a curette and the operation for which it is designed as a curettement, provided the latter is not pronounced curette-mŏng, with a decided nasal character, but we know of no extenuating circumstances permitting, in seriousness, the use of "excochleation" with the same end in view. If we have to scrape out a sinus, let us do it, but not paralyze the patient, his friends and perhaps the attending physician by solemnly assuring them that it is necessary to excochleate it to the end that all adventitious tissue and hypertrophied granulations be thoroughly eradicated. To speak of a cœleotomy or a trachelorrhaphy or an oophorectomy may be all right, but always argues that the knowledge of our own language is deficient or not capable of expressing the intricacies of surgical work. The German's show better taste than we for they find their language ample to convey any idea designed to be expressed. It is time that a crusade was started against those barbarisms which are encumbering the native simplicity of English.

COMMUNICATIONS.

Liability of Physicians in Furnishing Certificates in Accident Insurance.

MILWAUKEE, Wis., December, 1895.

Physicians at the present time are so frequently asked to fill out certificates for persons making claims for accident insurance, that it is well to consider what liability is assumed in making these certificates. As bearing directly on this question, your attention is called to the following enactment of the legislature of Wisconsin:

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Section 12 of Chapter 175, Laws of 1895, provides that:

"Any officer, member, agent, examining physician * * or any other person who shall knowingly or willfully make any false or fraudulent statement or representation * * with reference to any documentary or other proof for the purpose of obtaining a benefit from any corporation, order or association, for himself or any other person, * * upon conviction thereof shall be fined in a sum not less than $100, nor more than $1,000, or be imprisoned not less than three months, nor more than one year, or both, in the discretion of court."

The blanks usually presented by claimants which physicians are asked to fill out and sign, contain various questions relating to the cause, extent, evidence, etc., of the injury sustained, and among such questions the following very important one is sure to be found: "For what length of time was the claimant totally disabled?" Now, it is of no particular concern to the physician what the conditions of the policy held by the claimant may be, but it is generally known that all indemnities paid under accident policies are for "loss of time" caused solely by accidental injuries which can be proved by *external marks* on the person of the insured; but this question of duration of total disability is a troublesome one to every conscientious physician on account of the many factors to be considered, such as the occupation of the insured, his ability to attend to some portion of his duties, the time when total disability ceases, etc. Considering the matter from the physician's standpoint, is it not time to come to some uniform agreement on the subject, either by modifying the answer to this question, or refusing to answer it at all, and thus let the accident companies investigate and adjust this point for themselves?

C. W. OVIATT, M. D.

THROUGH an unfortunate typographical error, which we regret exceedingly, in Dr. Shimonek's article on the subject of "Suspensio Uteri," in JOURNAL No. 12, Vol. III., as printed it read, "two or three sutures are drawn and *one* tied,' whereas the reading should have been "two or three sutures are drawn and *are* tied."

News and Miscellany.

Prevention of Consumption.

The New Mexico public may be interested to know what foundation the territorial board of health has for its recent circular bearing the above title.

In 1882 the celebrated Koch of Berlin made public his discovery of the tubercle bacillus, the microscopic plant which he proved absolutely to be the essential cause of all cases of tuberculosis (and a thousand scientists have confirmed his results) whether in the form of infection of the lungs, the joints or the glands, generally. Inoculations of pure cultures of this bacillus conferred the disease upon lower animals, and in them and in man, when tuberculosis exists, the microscope reveals the deadly microbe.

The bacillus does not thrive outside of an animal body, as the germs causing typhoid fever and diphtheria do. Nor does it easily get a foothold in healthy bodies, but in persons debilitated rom any cause, as inherited feebleness, overwork, excessive anxiety, poverty, with its scanty food and unwholesome living, the disease easily develops.

In issuing a warning circular, the New Mexico board is only following tardily in the footsteps of the greatest health boards in America. The board in New York City issued similar instructions to the people five or six years ago. Philadelphia has been as many years the scene of a most vigorous and intelligent effort to check the ravages of this most effcient of Death's assistants. The state boards of Ohio, Michigan, Maine, Pennsylvania, and the other states have scattered millions of circulars of instruction on this vastly important subject.

Michigan now requires its physicians to register every case of consumption discovered in that state in the office of the state board of health. The distinguished Dr. Benjamin Lee, of Philadelphia, as secretary of the Pennsylvania board, signs a recent circular of eleven pages (second revised edition) in which he says: "Painful as the conviction that he is liable to be a dangerous source of infection to his family and friends, as well as to the public, must be to the sufferer from phthisis, it must be forced upon him. This is the duty of his medical adviser," and further: "If we can keep this bacillus out of the lungs in any given case, we shall prevent that individual from having

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consumption;" adding, "If the precautions hereinafter suggested are carefully observed, no one need feel the least anxiety in nursing a consumptive, even in the last stages of the disease." Of course, this does not exclude the possibilty of infection in other ways, as by the milk of tuberculous cows. As for instance in France in a female seminary twelve girls, children of healthy parents, fell ill with tuberculosis, chiefly abdominal, and five died, and the health officers easily traced the infection to a tuberculouscow long kept at the school, whose milk the girls had used.

Here let me call attention to the difference between infection and contagion. Contagion implies contact or close proximity, as is seen when small-pox or scarlet fever are contracted by close exposure; infection occurs when the disease germs are more remotely conveyed as in typhoid fever from infected drinking water, or cholera from soiled clothing carried for weeks in the trunks of emigrants. Consumption is infectious by the remoter taking in of the tubercle bacillus in the respired air of infected rooms or cars, or by infected milk from diseased cows.

The Maine state board of health says in italics: "The careless consumptive patient is a focus of infection, and a danger to all persons who come much in proximity to him." Again, "The patient should be made to understand that, in neglecting these measures, he is imperiling his riends." These circulars all give the same practical instructions that the New Mexico circular gives.

At a convention of the local health officers of Michigan last year, held under the auspices of the state board at Ann Arbor, the distinguished Prof. F. G. Novy said that the bacillus is not everywhere, not constantly being inhaled by everybody, but it has been found only within the immediate surroundings of tuberculous persons—that is, within the rooms which they occupy—and then only when the first principles of cleanliness as well as of prevention are neglected." Also, "A consumptive is not only a source of danger to his associates, but is likewise a source of danger to himself. The measures necessary for the protection of others are equally important to himself, as the chances for the re-introduction of the tubercle bacillus and the direct infection of otherwise healthy organs or parts of organs are in inverse proportion to the care which he takes in preventing the scattering of the organisms."

Dr. Henry B. Baker, the most active and efficient of all health officers in the United States, if I may be permitted an enthusiastic tribute to this most excellent sanitarian secretary of the Michigan state board, said at the same meeting:

"It seems to me quite possible for a consumptive person to so care for the general safety that he may move freely in private and in public without danger of spreading the disease. But in order that this may be done, it is essential that the consumptive person have complete knowledge of the methods by which consumption is spread, and by which it is restricted. And he must have also a conscientious determination that the specific cause of the disease shall be promptly destroyed, and not permitted to endanger the life of another person. If the patient has not that knowledge, he is not capable of comprehending it, or if he has not also a conscientious regard for the safety of others, the public interests demand that such a person having well-developed consumption of the lungs shall be isolated, for the public welfare, because he has the most dangerous communicable disease now known to us.

It is now evident that the idea of isolating consumptives is extremely unpleasant to many people, probably to all, unless through a study of the subject it has come to be realized how great is the price humanity pays for the freedom accorded to consumptive. I believe it is practicable for intelligent, conscientions consumptives to so act as to avoid spreading the disease, and to do this without any great degree of isolation. The question is restricted, therefore, to the propriety of enforcing care for the rights of the whole people upon those consumptives who are incapable of taking, or unwilling to take, the necessary care to void jeopardizing the lives of those who may come within the circle of their infection; for myself, I have no hesitation in expressing the belief that all such consumptives should be isolated."

These items are furnished as the merest sample of what the sanitary press of the world is loaded with, and because at noted health resorts like our own it is necessary to protect our people to protect our visitors against re-infecting themselves or each other and their attending relatives, and because grave attention is being given to these matters at Colorado Springs, Mentone, on the Mediterranean, etc. Indeed. at the latter place, where once consumption was unknown, the natives are now riddled with it through the thirty

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years influx there of ignorant, pus-spitting consumptives. FRANCIS H. ATKINS,
Secretary New Mexico Territorial Board of Health.

* * * *

DR. STEWART has assumed the duties of superintendent of County Hospital and is settled down to business.

MRS. JOHNSON, so long connected with Trinity Hospital, takes a position with Dr. Stewart, where her ability will have a wider scope.

MRS. COLBURN, a graduate of the Trinity Hospital Training School for Nurses, is superintendent of Trinity Hospital.

JUDGE JOHNSON has decided that Dr. Kempster is health officer. The Doctor's friends, especially of the South Side, disagree with the Judge *in toto*.

THE *College and Clinical Record* will be hereafter known under the name of *Dunglison's College and Clinical Record*, a monthly journal of practical medicine.

THE *Western Reserve Medical Journal* has merged into the *Cleveland Journal of Medicine*, and under that name comes out as an independent monthly of a fine appearance.

DR. BRADLEY, of the health department, reports very little contagious disease in the city. He promises to give before long a report on the use of antitoxin in the city for the benefit of THE JOURNAL readers.

H. BRONSON GEE, M. D., has resigned the editorship of the *N. Y. State Medical Reporter*. The management has secured the services of Chas. Wilson Ingham, of Binghamton, N. Y., to take charge of its editorial department.

DR. CONNELL, late of Milwaukee County Hospital, and Dr. Pelton, of Waupaca, contemplate a four months' tour in Europe. This will be decidedly pleasant for them and is what physicians should all plan to do. A few months spent in travel, aside from the knowledge obtained, is worth more than the sacrifice of practice in the recreation obtained.

THE Brainard Medical Society held its meeting at the Passavant Hospital in this city January 7th. The attendance was very good, and the usual interest taken in the papers read and cases presented.

We are awaiting a full report of the meeting from the secretary, and expect to be able to furnish some of the papers in our next issue.

THE Northwestern Medical Society met on the 14th inst., at Stevens Point. We regret very much our inability to be present, but hope to have report in full from Dr. Zeit, together with papers.

THE result of the tempest in the Emergency Hospital teapot, now that the grounds have settled, is a report exonerating the staff from all willful cruelty and a recommendation that a competent interne be hired at a liberal salary (which is good); that patients or their friends have the privilege of calling in consultation (an inalienable right), and that an alderman be on the board of trustees—a very proper thing. Thus has ended this chapter of Milwaukee medical history. Let it be written in letters of water!

* * * *

As a result of the newspaper notoriety given the executive ability of Milwaukee doctors, a Chicago man connected with a railroad hospital as trustee writes a private letter in which he offers to come to Milwaukee to show how an emergency hospital should be managed, saying that "a very creditable institution could be built on the mistakes of the old." We are afraid the trustees would hardly appreciate him.

THE Fox River Medical Society met on the 21st inst., at Green Bay, and held its annual meeting, ending with a banquet, at which about forty covers were laid. "The session was presided over by President J. R. Barnett, of Neenah. The annual report of Secretary-Treasurer H. B. Tanner called attention to the fact that while the membership of the organization is large, it might easily be doubled. He stated that there are in the territory included within the limits of the society at least 200 physicians, of whom not more than 100 had been registered as having attended any of the meetings of the society. The election of officers resulted in the selection of P. O'Keefe, of Oconto, as president; W E. Fairfield, Green Bay, first vice-president; J. F. Ford, Omro, second vice-president; H. B. Tanner, Kaukauna, secretary and treasurer; J. T. Redelings, Marinette, censor for three years.

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Dr. C. D. Boyd, of Kaukauna, read a paper on the treatment of diphtheria with anti-toxin, and gave the result in fifty cases as eminently satisfactory. Other papers were read by Dr. C. W. Oviatt, of Oshkosh, Dr. A. H. Levings, of Milwaukee, and Dr. W. H. Earles, of Milwaukee.

At the banquet the address of welcome was delivered by Mayor Elmore, and toasts were responded to by members of the society and others. It was deciced to hold the three quarterly meetings at Kaukauna, Neenah and Oshkosh, in that order, and the annual meeting in January next at Green Bay."

Book Review.

Dont's for Consumptives, or the Scientific Management of Plumonary Tuberculosis,

Is the title of a book which, under the authorship of Dr. Charles Wilson Ingraham, will soon (about Feb. 10th) be issued by the Medical Reporter Publishing Co. of Rochester, N. Y.

The complete work of 35 chapters is devoted exclusively to the general management of pulmonary invalids, no reference whatever being made to drug treatments.

The object of the author is to supply the physician with a practical work, and, at the same time, by eliminating technical terms, reduce the text within the easy comprehension of the intelligent patient. The author claims that "a good understanding of his condition is the best remedy for the consumptive." With this book in the hands of his patient the physician will be relieved of a multitude of details which attach to the successful management of such cases. Special attention has been given those chapters pertaining to the destruction of tubercular infection.

The book will be printed on 72-pound antique book paper, bound in cloth (imitation morocco), with title in gold leaf. Price, $1.75.

Books.

REPORT OF THE COMMISSIONER OF EDUCATION, Vol. I., 1892-1893.

PEORIA Medical Journal, Vol. 1., No. 1. Thos. M. McIlvaine, A. M., M. D., Editor. Maurice E. Case, publisher.

VALUE OF FAMILY, History and Personal Condition in Estimating a Liability to Consumption. By E. J. Marsh, M. D., New York.

ELEMENTARY Technique in Histology and Bacteriology. By Ernst Hoag, A. B., B. S., Pasadena, Cal.; and H. Kahn, Phar. M., Chicago. Colgrove & Co., publishers.

CLIMATE AND HEALTH, NUMBER FOUR. A Summary of Statistics for the four weeks ended October 26, 1895. By W. F. R. Phillips, M. D., under the direction of Willis P. Moore, Chief of Weather Bureau.

RESPIRATORY Passages. Carter. A 135-page book on Catarrhal Diseases of the Respiratory Passages. By J. M. G. Carter, M. A., M. D., S. C. D., Ph. D., Chicago, Ill. Colgrove & Co., publishers.

Reprints.

INFECTION. By V. A. Gudex, M. D., Milwaukee.

PROGRESSIVE Mutation in Medicine. By Ivins Comfort, M. D., Milwaukee.

EARLY History of Vaginal Hysterectomy. By N. Senn, Chicago.

AN overdose of Cannabis Indica. By Ivins Comfort, M. D., Milwaukee.

THE Operative Treatment of Fistula in Ano. By Lewis H. Adler, M. D., Philadelphia.

RESPONSE to the Toast, "Ephraim McDowell." By Joseph Eastman, M. D., Indianapolis.

THE Etiology and Symptomalogy of Pruritus Ani. By Lewis H. Adler, M. D., Philadelphia.

ELECTRICITY in the Treatment of Exophthalmic Goitre. By Robert Newman, M. D., New York.

EXCISION of the Coccyx, for constant pain, resulting from an ununited fracture. By Lewis H. Adler, M. D., Philadelphia.

CONSERVATIVE Surgery on the Battlefield, and First Aid to the Wounded. By N. Senn, M. D., Ph. D., S. S. D., Chicago, Ill.

THE Treatment of Malignant Tumors by the Toxins of Streptococcus of Erysipelas. By N. Senn, M. D., Ph. D., S. S. D., of Chicago, Ill.

METATARSALGIA, its Causes, Symptoms and Treatment, with Illustrative Cases and Bibliography. By Thomas S. K. Morton, M. D., Philadelphia.

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SUPPLEMENTARY Report on the Success of Electrolysis in the treatment of Urethral Strictures. By Robert Newman, M. D., New York.

THE Eitology, Pathology, and Treatment of Intestinal Fistula and Artificial Anus. By N. Senn, M. D., Ph. D., S. S. D., Chicago, Ill.

THE Results of Experiments Upon the Dog to Determine the Relative and Actual Time Required to Perform the Various Intestinal Operations, both by Suture and by the Use of Mechanical Appliances. By A. H. Levings, M. D., Milwaukee, Wis.

Publishers' Column.

How to Treat a Cough.

In an able article under the above heading in the New York *Medical Journal*, Edwin Geer, M. D., physician in charge of the City Hospital Dispensary, also physician in chief, outdoor department, Maryland Maternité Hospital, Baltimore, writes:

"The object of this brief paper is not to try to teach my colleagues how to treat a cough, but simply to state how I do it, what good results I get, and to call their attention to those lighter affections of the throat and chest the principal symptom of which is an annoying cough, for which alone we are often consulted. The patient may fear an approaching pneumonia, or be anxious because of a bad family history, or the cough may cause loss of sleep and detention from business. What shall we do for these coughs? It has been my custom for some time to treat each of the conditions after the general plan: If constipation is present, which is generally the case, I find that small doses of calomel and soda open the bowels freely, and if they do not, I follow them with a saline purgative; then I give the following:

℞ Antikamnia and codeine tablets, No. xxx.

Sig.: One tablet once every four hours.

"The above tablet contains four grains and three-quarters of antikamnia and a quarter of a grain of sulphate of codeine, and is given for the following reasons: The antikamnia has a marked influence over any febrile action, restores natural activity to the skin, and effectually controls any nervous element which may be in the case. The action of the codeine is equally beneficial, and in some respects enforces the action of its associate. The physiological action of codeine is known to be peculiar, in that it does not arrest secretion in the respiratory or intestinal tract, while it has marked power to control inflammation and irritation. It is not to be compared with morphine, which increases the dryness of the throat, thus often aggravating the condition, while its constipating effect is especially undesirable."

The Decadence of Opium Addiction

BY WENDELL REBER, M. D., POTTSVILLE, PA.
Oculist and Aurist to the Children's Home.

From the early history of medicine up to a few years ago, opium, in its galenic or alkaloidal derivatives, was the chief agent in the hands of the physician for the alleviation of all pain.

Its use by the profession was world-wide, and even the laity began to look upon the drug as a convenient and comparatively safe means to have at hand for relief.

The crowded condition of many of our institutions for opium habitues today proclaims all too loudly the evils of such an indiscriminate practice, and though many a medical man has had reason to reproach himself for introducing his patient to the alluring drug, there are, even today, those who, disregarding the magnificent contributions of synthetic chemistry in the last fifteen years, cling tenaciously to papaveris as the ideal pain reliever and sleep producer.

Not so, however, with those who have patiently and studiously sought out an anodyne and hypnotic in whose train did not follow the baneful results that attend long continued opium administration. We would not banish opium. Far from it. There are times when it becomes our refuge. But we would restrict it to its proper sphere.

In the acute stage of most inflammations, and in the closing painful phases of some few chronic disorders, it is our grandest remedy, our confidential friend. But here, the application must cease; and it is just here that the synthetic products step in to claim their share in the domain of therapy.

Among the latter, perhaps none has met with so grateful a reception as antikamnia, and justly so; for among all the contributions of pharmaceutic chemistry none so fully merits our confidence as this one, presenting as it does, the meritorious properties of the other synthetic antipyretics and anti-neuralgics, without exhibiting their depressing action on the heart.

Its range of application is wide. It is of posi-

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tive value in certain forms of dysmenorrhoea; it has served me well in the pleuritic pains of advancing pneumonia, and in the arthralgias of acute rheumatism; on several occasions I have been able to allay with it the lightning, lancinating pains of locomotor ataxia; but nowhere do I employ it with such confidence as in the neuralgias limited to the area of distribution of the fifth nerve. Here its action is almost specific; surpassing even the effect of aconite over this nerve.

Given a frontal-temporal-vertical or occipital neuralgia growing out of an uncorrected ocular defect, it will almost invariably arrest the head pain until such time as the ocular trouble can be corrected with glasses. In the terrific fronto-parietal neuralgia of glaucoma, or in rheumatic or post-operative iritis, it is of signal service, contributing much to the comfort of the patient; and, I have sometimes thought, exerting an undeniable influence over the ocular disease. In this last group of cases I have seen the most benign effects follow the hourly administration of ten grains of antikamnia until the pain is relieved. It will seldom be necessary to exceed sixty grains of the drug.

According to the statistics of institutions for the treatment of opium addiction, there is no class of invalids from which there have been more opium habitues recruited than chronic neuralgics.

If this be so, and the statement proceeds from high authority, the medical man who uses opium in chronic diseases, save as a *dernier ressort*, is not only indulging in a reprehensible practice, but reviewed from the standpoint of higher medical ethics, he is criminally careless in employing a dangerous drug when one that has been proven safe will meet the indications equally well.—*Buffalo Medical Journal.*

The Columbia Calendar.

The Columbia Pad Calendar for 1896 has made its appearance, representing the eleventh annual issue, and handy and convenient as it has been heretofore, the new issue certainly surpasses any of its predecessors. The cycling fraternity, to say nothing of the general public, has acquired a decidedly friendly feeling for the Columbia Calendar, and its annual advent is looked forward to with interest and pleasure. The new Calendar contains a much better arrangement than in previous years, more space having been allowed for memoranda, while a greater charm has been added by liberal illustration and a unique and convenient grouping of dates, calculated to meet the hurried needs of business men. All these, however, merely form a setting for the bright and sparkling thoughts contributed by Columbia riders everywhere; for such a host of friends has the Calendar acquired that it has become a customary practice for wheelmen all over the country to jot down their best thoughts and inspirations after being subjected to the exhilarating influence of a Columbia ride, and to send them in to brighten its pages. In addition to these pleasing features the moon's phases are indicated for the benefit of those who wish to know the best time for night riding. The many dainty sketches that embellish its pages render it indeed a work of art. Owing to the unusual demand last year a much larger edition has been issued for 1896. The Calendar can be obtained for five 2-cent stamps by addressing the Calendar Department of the POPE MANUFACTURING COMPANY at Hartford, Conn.

Congestion of the Kidneys with Scalding Urine and Inflammation of the Urethra.

I ordered a bottle of Sanmetto for my own use. I had been suffering from congestion of the kidneys with scalding urine and inflammation of the urethra for a long time. All I did failed to give me any relief. I decided to try Sanmetto. The first bottle gave me such relief that I ordered another one from my druggist and used about one-half of it. I consider that I am a well man in that respect for the first time in ten years. I am confident that Sanmetto did the work, and of course I am *highly pleased with it.* Will continue to use it whenever an opportunity presents itself.

S. HULL SMITH, M. D.
Waynemanville, Ga.

BATTLE & Co., St. Louis:

Some time ago you sent me specimens of your preparations of Bromidia, Papine and Iodia. Unlike many who send out specimens, you sent an amount large enough to really make a trial with. I had used the two first named a little, but having them more forcibly brought to mind, and recognizing the fact that I had them on trial, I watched their action more carefully. I can say that they are both elegant and health bearing. Bromida I used on a man verging on Mania a Potu. Papine on a nervous, typhoid woman, and Iodia on a young man who had carried boils for three

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years as the result of ivy poisoning. The preparations were a decided success in every instance.

Yours truly,

E. C. ADAMS, M. D.

Watertown, S. D., December 10, 1895.

REFERRING to Listol, Prof. J. Hobart Egbert, A. M., M. D., Ph. D., in a recent contribution to the *American Medical Journal*, says: "This remedy is one of the finest healing agents and antiseptics known to modern Therapy." A Holiday Gift of Listol, for every physician and hospital in the United States. We will send postpaid to any physician or hospital, on request, a dollar package of Listol, free, together with literature, and "Surgical Therapeutics," by a hospital surgeon, on receipt of 25 cents in postage.

FOR HEMORRHOIDS.

℞	Ext. hamamedilis, pwd.,	℈j
	Pulv. opii,	gr. vj
	Listol,	℥ ss
	Ol. theobrom, q. s.,	
M	In suppositoria (rectal)	No. xij

Divide.

Sig. Insert one at bedtime, or oftener if required.

These suppositories afford prompt relief to bleeding, irritated and inflamed piles.

TO RELIEVE PRURITUS.

℞	Listol,	℥ij
	Acidi borici,	℥j
	Talcum purificat,	℥j
M	Fiat pulver.	

Sig. Dust freely over affected area.

This powder is of particular value for the relie of pruritus and pruritus scroti, as well as to relieve the itching and burning of many lesions of the skin.

IN reporting the case of a woman suffering from Neoplasm in the stomach, Dr. Ernesto Costo, of Alagna, Italy, says:

"One can easily imagine the intense pain which entirely prevented her sleeping. I tried chloral and sulfonal, and although the latter answered fairly well for a time, it soon became necessary to discontinue it. I then administered Bromidia with the following results:

1. It produced refreshing sleep.

2. It soothed the pain, and thus rendered alimentation possible.

3. Although given in frequent, and sometimes in tablespoonful doses, it never produced any nervous or cardiac disturbance."

Chronic Dry Nasal Catarrh.

The following prescription is recommended by one who has successfully tried it for chronic dry nasal catarrh:

1 oz. Liquid Vaseline.
¾ oz. Sanmetto.
¼ oz. Glycerine.

To be used as a spray three times daily through an atomizer, and to take internally Sanmetto in teaspoonful doses four times a day.

Sennine, the New American Antiseptic.

This product is composed of boracic acid and phenol, and is unexcelled as a dry antiseptic dressing. The only perfect substitute for iodoform, carbolic acid, bicholoride of mercury, etc. It is *entirely odorless*, consequently preferable, and is very highly recommended by the most prominent surgeons.

SANMETTO.—I have been using sanmetto for several years, and find it invaluable in nearly all kidney and bladder troubles, especially those accompanied by irritation or inflammation of the mucous membranes, as well as in sexual decay and pre-senility.

WM. F. MITCHELL, M. D.

Addison, Pa.

"I HAVE found Koka-Koloid of benefit to myself, and during that time of trial to the mental and physical condition of all housewives, viz., house-cleaning, my wife has found it invaluable.

WILLIAM E. ANTHONY, M. D.

Providence, R. I., May 1, 1895.

Peptic Properties of Pineapple Juice.

The digestive ferment of pineapple juice resembles, in its action, the animal ferments, and is said to be of value in the chronic forms of gastritis and dyspepsia. It is employed also in chronic catarrh of the stomach, fermentative decomposition of food, gastric or intestinal pain, and in sympathetic nausea and vomiting pregnancy. Bloom, of Philadelphia, reporting his experience with this agent, says: "It can be employed upon the diseased mucous membranes in cases of vaginitis and tonsilitis, when the mucus is such a prominent symptom; it acted better than any other local medication; in nasal catarrh, diluted with one-half water, and used as a spray, it acted promptly in cleaning out the mucus, and seemed to influence for the good the inflamed membrane.—*Western Drug*.

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Selections.

The Formation of Pus.

By V. A. Gudex, M. D.,

Professor of Bacteriology, Milwaukee Medical College and School of Dentistry.

The formation of anæsthesia and the development of aseptic surgery have been of much greater value to suffering humanity than anything the medical profession has ever invented.

Pus formerly was considered a necessity in the healing art; but to-day the problem assigned to the profession is its entire prevention.

How is pus produced? is a question not easily answered. The practitioner who takes life easy will usually reply—"Bacteria." This answer is short and to the point; yet meaningless. It is a step-brother to the expression—"Remove the cause."

Experiments in the bacteriologic laboratory, especially by our European brethren, have materially aided us in forming a partial solution of this problem.

Pus cannot be developed in the system naturally, except through a peculiar action of bacteria or bacterial product on the tissue. Experimentally, it may be produced with certain chemicals. But, since these chemicals are never developed in the system, either by a morbid or physiological process, this kind of pus formation is limited to the experimental laboratory.

All pus is pathological, it never can be called physiological. For sake of description, however, it may be divided into bacterial and non-bacterial, or chemical, pus.

The pus-forming power is not confined to any one species of bacteria, but is common property of many different germs. Diligent research has annually swelled the list of pyogenic bacteria. The most common pus producers are: Staphylococcus pyogenes aureus et alubus, streptococcus pyogenes, bacterium, colli communi, diplococcus lanceolatus Fraenkel, and pneumobacillus Friedlaender. Leyden, and, later, Grawitz, proved that the gonococcus of Neisser possessed pyogenic properties. Orloff, Roux, and others placed the typhoid bacillus under the same list, and Arloing, and also Fuchs found small anacrobic bacilli which produced pus in guinea pigs and rabbits. Buchner succeeded in producing pus with seventeen different kinds of micro-organisms. It must also be borne in mind that the simple injection of pyogenic germs does not always produce pus, for two reasons: The system may be able to resist and destroy them; or the virulence of the germ may have materially decreased.

The experiment of injecting pyogenic germs, and resulting in pus, has been performed so many times with success that it no longer can be called a theory, but a well-established fact. Every asceptic operation demonstrates that inflammation and tissue injury alone is powerless in producing pus. Here may be mentioned the experiments of Buchner. They have given considerable inspiration to the study of pus formation. He claimed that pus was produced through a protein, an albuminate contained in the bacterial cel,- and substantiated his position with the following experiments:

He injected sterilized cultures of Friedlaender's pneumo-bacillus, and produced pus. He was not able to destroy the pus-producing power of the germ after one hour's boiling. On letting the cultures stand for a few days, and allowing the bacteria to settle, injections of the upper stratum, containing no bacteria, produced no pus, but inoculations with the sediment did. Other experimenters achieved similar results.

Bacterial pus, then, is due to the action of certain elements contained in the bacterial cell on the tissues, resulting in their destruction, with peptone as one of the new substances formed.

Non-bacterial pus can be produced with a number of chemical substances, of which turpentine, croton oil, silver nitrate, and mercuric chloride, received the greater attention. Animal alkaloids, like cadaverin, may also be grouped under this head.

The experiments reported by Poliakoff* are a very plausible explanation of the formation of non-bacterial pus. I have repeated his experiments, and, therefore, can verify them.

The mode of procedure is not a new one. It consists in preparing very thin glass capsules, filling them with the reagent, and melting the ends together. The animal is prepared by shaving the back, and cleansing the skin, the same as for an asceptic operation. A fold of the skin is picked up and an incision made through it with an asceptic knife. A sterile glass tube a little larger than the capsule is pressed through this opening some distance under the skin. Through this tube the capsule, previously sterilized, is introduced, and the glass tube withdrawn; the wound is then

* Centralblatt fur Bacteriologie, Vol. xviii, p. 88.

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dressed and closed with chloropercha. It takes nearly three weeks for the wound to heal. The glass capsule is then crushed.

Ten drops of turpentine, introduced in this manner, produced a large encapsulated abscess in ten days. The action of croton oil is a little more rapid.

The pus produced in this manner cannot be differentiated from bacterial pus, except that it contains no bacteria. It gives the reaction of peptone, and also contains the large polynuclear cells.

These experiments do not substantiate the claim that chemical pus contains no peptones. and no large polynuclear cells. The only real difference outside of the one before mentioned is that chemical pus has no tendency to spread.

Buchner claims that the formation of pus was due to the gradual and continual exudation of the protein from the bacterial cells into the tissues. Poliakoff* attempts to explain this with the following experiments:

Capsules of celluloidin were prepared, through which transfusion of liquids takes place very readily. In one rabbit, five drops of turpentine were introduced subcutaneously with a Pasteur pipette. This resulted in a slight swelling, which soon disappeared, the autopsy showing no trace of pus. In another rabbit, a celluloidin capsule containing five drops of turpentine was introduced in the same manner as the glass capsules. This resulted in an abscess of creamy pus, in which rested the uninjured capsule, still containing turpentine, and freely movable in the mass.

The same experiment was made with a bouillon culture of staphylococcus pyogenes aureus. Two c. cm. of the culture produced no effect when injected under the skin†; but the celluloidin capsule, containing but seven drops of the same bouillon, produced a large creamy abscess, containing the uninjured capsule. The pus was entirely free of germs, consequently must have been produced by the gradual transfusion of the poisonous product of the germs into the tissues.

From the foregoing experiments the following may be concluded:

1. Any irritating substance introduced into the system, and remaining for some time at a given point, will produce pus, provided it can form a peptone with the tissues.

2. The natural process of pus formation in the system is always caused through bacteria.

3. The transudation of the poisonous principle into the tissues seems to be continual, though gradual.

4. Chemical or non-bacterial pus is never developed in the system unless the irritating chemical is artificially introduced.

5. Chemical and microscopic examination of bacterial and non-bacterial pus shows no difference, except that the latter contains no germs.—*Charlotte Medical Journal.*

* I have not yet repeated these experiments, but will do so and report the result to your Journal. I sincerely hope other experiments will give a helping hand to solve this problem.

† The quantity seems rather large to be absorbed without pus production. My own experience was not quite so fortunate.

Electrolysis for the Surgical Treatment of Strictures.

By J. A. Fort, M. D.

Professor of Anatomy in the Ecole Pratique of the Paris Faculte de Medecine.

Read before the Section in Genito-urinary Surgery of the New York Academy of Medicine, Tuesday, Nov. 12, 1895.

It affords me great pleasure to have the honor of being allowed through the kindness of your president to present to you a new instrument which I have devised and called "electrolyser," for the surgical treatment of strictures by the "linear electrolysis" method.

It is a well-known fact that electrolysis has been discarded on account of the imperfect instruments which were used. My electrolyser has all the advantages of the urethrotome and none of its inconveniences. It looks like a small whip of which the handle contains a metallic wire projecting from the end which connects with the flexible part. This instrument, being first introduced into the urethra, is connected with the negative pole of a continuous current battery, and the positive pole is connected near the affected part, on the front of the thigh or over the pubes; then the current is turned on.

The operation, which is almost painless, requires thirty seconds (on an average), with a current of a strength of at least ten milliamperes, as indicated by means of a galvanometer. The electrolyser remains perfectly cool during the operation. In nearly all cases there is no bleeding, or but very little. The urethra is made aseptic before and after the operation, in order to prevent fever. I never allow a sound to remain permanently in the urethra for any length of time after the operation.

Usually the wound resulting from electrolysis heals quickly without any local treatment what-

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ever, and often the patient can attend to business immediately after the operation.* In nearly all cases I pass a sound the third day after the operation, also the day after. I instruct the patient to pass a sound, No. 22 or No. 24 F., every month and every other month.

With the urethrotome, which cuts blindly, the surgeon cannot ascertain the degree of density of the tissue of a stricture. On the contrary, by means of electrolysis, which merely produces a molecular destruction of the stricture, although the instrument remains cool, I have been able to demonstrate that there are two classes of stricture —"soft and hard." Hard strictures are in the proportion of one against five soft ones.

The time required to perform the operation varies with the density of the stricture. Some strictures are so hard that they cannot be successfully operated upon by electrolysis.

If my American colleagues who are familiar with the French language are willing to refer to one of my books entitled *Traitement des retrecissements par l'electrolysis lineaire* (this book can be procured at the library of the Academy of Medicine), they may find it quite interesting, as it will enable them to understand the improvements which have gradually been introduced in the applications of electrolysis to surgery during the last fifteen years. They will also understand how I have applied electrolysis to the treatment of strictures of the urethra, uterus, rectum, and œsophagus.

Up to date, I have performed in Europe a hundred and thirty-five operations on strictures of the œsophagus (recorded in my book), and with the exception of those which were caused by malignant growths of the wall of the œsophagus all recovered.

It has been my good fortune to meet here some leading surgeons who are authorities in the treatment of strictures, and I am very grateful to them for their kindness in giving me the opportunity to demonstrate the advantages of my method in operating upon some of their patients.—*New York Medical Journal.*

The annual meeting of the Milwaukee Medical Society was held Jan. 14th and the following officers elected for the year 1896: President, Dr. W. A. Batcheler; Vice-Presidents, Dr. Dwight Mereness, Dr. Ralph Chandler; Secretary, Dr. Gilbert E. Seaman; Treasurer, Dr. U. O. B. Wingate; Librarian, Dr. R. N. Hawley; Curator, Dr. A. J. Burgess.

*When the wound does not heal, I merely prescribe injections morning and evening with one part of hydrozone to twenty parts of water.

Infant Feeding—A Review.

By A. Jacobi, M. D.

Clinical Professor of Diseases of Children in Columbia College, New York.

In the last decade great and successful strides have been made in medical therapeutics as well as in surgical. The former have been improved partly through the aid of pharmaceutical preparations and of the products of biological research, partly through new methods and appliances for hygienic and preventive purposes. It is mainly the infectious diseases which have been served by the former, and both public and individual hygiene by the latter. Early life has been particularly benefited, and by nothing more than by careful endeavors to improve the diet of the young, and thereby to remove the dangers of intestinal disorders and the sources of excessive mortality.

Sterilization—Nothing has been more successful in that direction than the widespread practice of sterilization (and pasteurization) of cow's milk. Both are the logical development of the plan of treating milk by boiling, which I persistently advised these thirty-five years at least, and detailed in my "Infant Diet," in Gerhardt's Handbook, in Buck's Hygiene, in "Intestinal Diseases of Infancy and Childhood" * and in my clinical lectures delivered during the last third of a century.

Now what is it that boiling can and will do? Beside expelling air it destroys the germs of typhoid fever, Asiatic cholera, diphtheria and tuberculosis; also the odium lactis which is the cause of the change of milk sugar into lactic acid and of the rapid acidulation of milk with its bad effects on the secretion of the intestinal tract. Some varieties of proteus and most of bacterium coli are also rendered innocuous by boiling. Thus it prevents many cases of infant diarrhœa and vomiting—not all of them. For the most dangerous of all the bacteria are not influenced either by plain boiling or the common methods of sterilization. Besides, "diarrhœa" is but a symptom of many causes, and "cholera infantum" is a name for a condition occasioned by many. Ebstein emphasizes the fact that babies at the breast are subject to cholera infantum, particularly in southern climates, also in public institutions. The in-

*P. 18. "After boiling, milk destined for the use of a baby during the day should be kept in clean bottles containing from three to six ounces, filled up to the cork, and the bottles then turned upside down in a cold place; such will keep longer than milk preserved in the usual way. Before being used it should be heated in a water bath: and by repeating this heating of the whole amount of the day's milk, several times during the twenty-four hours, fermentation will be retarded, and digestibility improved."

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fluence of external temperature is a very important factor; its sudden changes produce intestinal disorders. Babies, taken from a hot railroad car to the deck of a lake steamer, from a warm bed to a draughty room, may develop a catarrhal enteritis which disposes to worse forms of disease. For the morbid condition of the epithelium caused by such sudden changes is a proximate cause of disease because it opens the way to all sorts of infecting substances. Poisons in the food of cows, indigestible baby foods—either indigestible *per se*, or through a morbid condition of the digestive organs—produce diarrhœa of many varieties. It need not even depend on ingested food; for according to W. Schild's recent investigations (Zeitsch. f. Hyg. u. Infect. XIX.) germs of diseases may be found in the intestine of the newly born in from ten to seventeen hours after birth (min. 4, max. 20). The meconium of the newly born being free of germs, is supplied through the mouth with the bacterium coli and through the anus with the bacillus fluorescens, subtilis and proteus (even adults are infected through the same inlet). Linen, the bath, the air, the blood are sources of local invasion. In such cases, what is the sterilization of artificial food to accomplish? They are not reached by it.

Not even the natural food, breast-milk, is free of germs possibly attended with dangers. M. Cohn and H. Neumann found germs in the healthy breast-milk even after the mamma and nipples had been washed with alcohol and with solutions of corrosive sublimate. A. Palleske met with the staphylococcus pyogenes albus in one-half of all healthy women, F. Honigmann (Z. f. Hyg. u. Inf. XIV.) in most of them, and H. Knockenstein (Inaug. Diss. 1893) in the mammæ of eight puerperal and nursing women. Evidently they had immigrated from outside; they proved innocuous. But who can doubt but that if the epithelium of the milk ducts had been morbid, there would have been a chance for a mastitis, or if the staphylococcic milk had got into contact with a sore stomach or intestine, there would have been an opportunity for gastritis or enteritis.

Nor is boiling, nor sterilization, a safe protection under all circumstances. Aerobic bacteria, the so-called hay or potato bacilli, with very resistent spores, which are found in cow dung and in the dust of stables, of the soil and streets, and of hay, peptonize casein and liquefy it and render the milk bitter. They are very poisonous; their pure culture gives young dogs a fatal diarrhœa. It takes hours of sterilization to kill them; in some instances it required five or six hours. Even the bacillus butyricus takes an hour and a half. But such a protracted sterilization, beside being far from certain in its effect, is at all events a clumsy procedure, and one not calculated to benefit the milk. Thus hay feeding is an absolute necessity, for the bacilli are destroyed by a six weeks' drying. Besides, it is urged to keep the stables carefully clean, to avoid dirt and dust, to employ peat instead of straw for bedding, to wash the udder and tie the tails before milking, to waste the first milk, and to remove foreign material from the milk by centrifuging. But no absolute security can be guaranteed. That is why Flügge adds to his expositions a warning against some wholesale manufacturers who, always anxious about somebody's—their own—welfare, are known to conceal, by coloring the glass of their bottles, the changed condition of the milk and the separation of butter particles.

Whatever I have here brought forward is certainly not to disparage the boiling of the milk; it is meant to prove the danger of relying on a single preventive when the causes of intestinal disorders are so many. It is true, however, that the large majority of the latter depends on causes which may be met by sterilization; but not by sterilization only; also by pasteurization, that is, heating the milk to 70° C.=165° F., and keeping it at that uniform temperature for thirty minutes—a procedure which destroys the same germs that are killed by a more elevated temperature, without much change in flavor and taste.

One of the questions connected with the employment of sterilized or pasteurized milk is this, whether the milk to be used for a child ought to be prepared at home, or whether the supply may be procured from an establishment where large quantities of milk believed to become immutable by sterilization for an indefinite period are kept for sale. In regard to this problem Flügge plaintively expresses his regrets that "we have allowed ourselves to be guided by people who are neither hygienists nor physicians, but chemists, farmers or apothecaries, and whose actions have been based on three false beliefs. Of these the first is that boiling for three-quarters of an hour destroys germs, the second that whatever bacteria remain undestroyed are innocuous, and the third that proliferating bacteria ca always be recog-

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nized by symptoms of decomposition." Nothing is more erroneous. Soxhlet himself, the German originator of sterilization, knew at an early time that the fermenting process is now and then but partially interrupted by boiling, that butyric acid may be found in place of lactic acid, that a strong evolution of gas may be caused after such boiling, and that such milk may give rise to flatulency. Aye, milk which happens to contain the resistent spores of bacteria becomes a better breeding ground for them by the very elimination of lactic acid, and the longer such sterilized milk is preserved and offered for sale, the worse is its condition. It may be true that these conditions are not met with very frequently, but an occasional single death in a family caused by poisonous milk will be more than enough. Therefore, the daily home sterilization is by far preferable to the risky purchase from wholesale manufacturers who cannot guarantee, because in the nature of things they cannot know, the condition of their wares.

Another alteration of a less dangerous character, but far from being desirable, is the separation of cream from sterilized milk which is preserved for sale. Renk (Arch. f. Hyg. XVII.) found it to take place to a slight extent during the very first weeks, but later to such a degree that 43.5 per cent. of all the cream contained in the milk was eliminated.

Sterilization has been claimed to be no unmixed boon because of its changing the chemical constitution of milk. Still, the opinions on that subject vary to a great extent, the occurrence of changes being both asserted and denied by apparently competent judges. But what I have said a hundred times is still true and borne out by facts, viz.: That no matter how beneficial boiling or sterilization or pasteurization may be, they cannot transform cow's milk into woman's milk, and that it is a mistake to believe that the former, by mere sterilization, is a full substitute for the latter. It is true that when we cannot have woman's milk, we cannot do without cow's milk. There is no alleged substitute that can be had with equal facility or in sufficient quantity. But after all it is not woman's milk. Babies may not succumb from using it, and may but seldom appear to suffer from it, indeed they will mostly appear to thrive on it, but it is a makeshift after all, and requires modifications. Hammarsten was the first to prove the chemical difference between the casein of cow's and woman's milk. Whatever was known on that subject at that time I collated in Gerhardt's Handb. d. Kind. 1st Vol. 1875 (2 ed. 1882). But lately Wrobleski demonstrated the difference in solubility of the two milks. Woman's casein retains, during pepsin digestion, its nuclein (proteid rich in phosphorus) in solution, it is fully digested; in cow's casein the nuclein is not fully digested, a "paranuclein" is deposited undissolved and undigested. Besides, woman's casein contains an additional albuminoid which is not identical with either the known casein or albumin. (H. Koplik in *N. Y. Med. Journal*, April 13th, 1895.)

Ergo: Cow's milk is not woman's milk. It is not identical with it. Sterilization does not change its character. It merely obviates such dangers as result from the presence of pathogenic germs, and from premature acidulation. The substitution of cow's milk or of sterilized milk for woman's milk as the *exclusive infant food* is a mistake. Experience teaches that digestive disorders, such as constipation or diarrhœa, and constitutional derangements, such as rhachitis, are frequently produced by its persistent use, and it appears to be more than an occasional (at least cooperative) cause of scurvy.

ADMIXTURE OF CEREALS—Since the advisability of finely dividing and suspending the casein of cow's milk and of adding to the nutritiousness of the latter caused me always to teach the admixture of cereals to it, even in the very first days of infancy, the subject of infant feeding has never been lost sight of by medical men, pure scientists and tradesmen. No subject has been treated more extensively, more eagerly, sometimes even more spitefully, than that of infant feeding. The philosopher's stone has not been so anxiously sought for, nor been so often found in medical journals, books and societies, as the correct infant food and the appropriate treatment of cow's milk. After the finally faultless thing had been discovered very many times, it was therefore not a surprise but a source of gratification to me to meet, in the *Berl. Klin. Woch*, No. 10, 1895, an article of Heubner's who, after having contributed for years as much as any writer, if not more, to the literature of the subject, recommends the "utilization of flour in the intestines of young nurslings." Basing his remarks firstly on the researches of Schiffer, Korowin and Zweifel (quoted in my early writings on that very topic more than twenty years ago) who by experimentally proving the digestibility of a certain amount of starch in

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the saliva (and pancreatic juice) of young infants* justified my empirical findings of many previous years, and secondly, on what he is pleased to call "Jacobi's practical experience,"—the Berlin physician recommends in intestinal diseases of the very young the simplest flours, mainly of rice and oats (which have a finer microscopical structure than wheat). He pointedly adds: "Very young infants do better on a dilution of milk with a thin rice decoction than with mere milk sugar solution. Practical experience surpasses theoretical conclusions."† There is but one point in which the famous teacher does not agree with e, for in his expositions we meet with the remark that he "cannot approve of the colossal dilution recommended by the authority of Jacobi." The colossal dilution alluded to is that of milk in 4 or 5 parts of oatmeal or barley water for the use of the newly born. In regard to this dilution also I trust I shall see my illustrious colleague siding with me yet. The demands of pepsin digestion, and of rapid growth and of the necessity of restitution of losses experienced by eliminations and excretions are just as many reasons for extra allowances of water in the diet of very young infants who have to rely on the services of others. Older children know how to find it and how to serve themselves. In addition, it is certainly true that a large amount of water passing through the kidneys removes the inconveniences and dangers of the peculiar physiological process which takes place in the first three weeks of every life, viz., uric acid infarctus, the results of which are gravel, renal calculus (by no means rare) and nephritis. Indeed, since the rather frequent adoption of my plan of supplying the very young with quantities of water, I hear less of renal complaints than I did dozens of years ago.

Perhaps the tide is beginning already to turn in my direction. Norbert Auerbach, whose researches on the difficulty of destroying the hay bacillus and the bacillus butyricus are very meritorious, recommends larger percentages of water in infant feeding than the customary ones. His mixtures for the first and second months of life are three parts of water and one of milk, for the third and fourth, two and one, for the fifth and sixth, one and one, for the seventh and eighth, one and two. His figures are, therefore, not exactly like mine, but even they may appear heretic to my critic. In connection with this subject I am also pleased to state that Auerbach agrees with me on another subject. The sugar he adds to the milk food of infants is not milk sugar but cane sugar, of which he gives twenty grammes daily, and also, according to my old teaching, more during constipation. He prefers cane sugar undoubtedly for the reasons which guided me in my recommendations, though it is true that milk sugar is being stripped of its dangers in the same degree as boiling, sterilization or pasteurization are carefully practiced. Virtually, sterilization has been practiced by me these more than forty years, and has been taught by me these thirty-five years, both in lectures and in books and essays. My method has been referred to. I always urged that safety increased with the number of boilings. Still even lately New York gentlemen have been pleased to say and one of them has printed, though he was told of his mistake before printing, that Jacobi was an opponent of sterilization.

Actual sterilization, according to Soxhlet, was introduced in New York by A. Caille. Then manufacturing firms took it up as a matter of course. One of them was prevailed upon by me to execute a device of Dr. A. Seibert, who advised the determination of the amount of sterilized food, and the graduation of the feeding bottles, according to the weight of the infant. In most cases this plan is good, for the condition of the child can mostly be measured by the increase of its weight. Only fat, clumsy, rhachitical children make an exception; in them the rapid increase of weight is rather a morbid condition than a symptom of healthy development. Besides, he improved his food by adding, in conformity with my practice and sterilizing at the same time with the milk, either barley or oatmeal water. A recommendation of his sterilizer is its cheapness, which makes it more accessible to the poor. His plan —developed later—to filter milk before sterilization, is identical with that recommended by Auerbach.

The writings and practical instruction of Dr. Rowland Godfrey Freeman have been a great advantage to New York, particularly to its poor population. He insists upon pasteurization as a sufficient method of safety. As the adviser of Mr. Nathan Strauss, in his successful endeavors to supply thousands with a safe article of food, he

*Bias dies hard. While it took Heubner more than twenty years to avail himself of very accessible physiological experience, a celebrity of equal rank (Philip Biedert, Handbuch der Kinderkrankheiten 11th ed. 1891, p. 39) still appears to approve or the opinion that a nursling must have "no amylacea" because of their indigestibility, before the protrusion of teeth Before long, more than today, it will be a generally accepted axiom that cereals must be given to make teeth when milk food alone does not suffice for their development.

†"Probiren geht über Studiren."

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has benefited the city and aided in setting an example which should and will be imitated.

MODIFIED MILK.—Pasteurization is also employed by Rotch. In a paper read before the American Pediatric Society at Boston, May 4th, 1892,* he presented, amongst others, the following statements, which I gladly repeat, as I know his teachings to have done a greal deal of good. Indeed, I was so much impressed by them that I encouraged the gentleman who had conducted a milk laboratory on Dr. Rotch's plan in Boston to establish a similar institution in New York. Some of Dr. Rotch's lucid statements are as follows:

"What the profession needs is the knowledge that they may have milk laboratories where the materials are clean, sterile and exact in their percentages. Slight changes in the three elements of the milk, of which we have the most accurate knowledge, namely, the fat, sugar and albuminoids, are of real practical value in managing the digestion and nutrition of the infant. (Normal percentage in milk of fat 2.02-4.37, of milk sugar, 5.70-7.10, of albuminoids, 1.08-3.07, of mineral matter, 0.12-0.20.) The digestive capabilities of the infants differ, just as those of adults, and nature, therefore, provides a variety of good breast-milks adapted to the individual idiosyncrasy of the special infant. With this fact impressed upon us we can well see that in artificial feeding no routine mixture will, in all cases, prove successful.† We are in need of a means by which we can prescribe exactly according to the idiosyncrasy of the digestion we are dealing with."

"A separator, with many thousands of revolutions in a minute, separates from the milk foreign material and divides it up into a cream of a stable percentage and separated milk. The milk sugar and the albuminoid, also the mineral matter of this milk, is fairly well known, and thus the laboratory worker is enabled to put up any prescription, which for a healthy baby of four months would read fat 4, milk sugar 7, albuminoids 1.50. Put up 8 tubes, each 4 ounces (with lime water 5 per cent.) pasteurize (75°C-167°F) for twenty minutes. In this mixture the lime water is just sufficient to slightly alkalinize the cow's milk.‡ In this way the food of the child can be modified according to age, and to changed conditions of health."

In a case of duodenal jaundice, in a girl of six years, the doctor prescribed fat 0.5, milk sugar 6, albuminoids 4, give 4 ounces every 2 hours. Send 12 tubes, each 4 ounces, lime water one-tenth. In a case of summer diarrhœa in a girl of four months, fat 2, milk sugar 5, albuminoids 1, send 20 tubes, each 1 ounce and 1 drachm. At time of each feeding, add lime water 3 drachms. Sterilize at 212°F.

One of the beliefs guiding the author of this method is as follows: "The constituents of the nutriment which nature has provided for the offspring of all animals and human beings that suckle their young, is essentially animal and not vegetable. Human beings in the first 12 months of life are carnivora. An animal food entirely and always free from any vegetable constituents has been proved to be the nutriment on which the greatest number of human beings live and the least number die."

Those who followed my teachings at any time during this one-third of a century, know that I

*The value of milk laboratories for the advancement of our knowledge of artificial feeding. By T. M. Rotch, Trans. Am. Ped. Soc., 1892, iv. 244.

†All this also proves that nature allows a great deal of latitude, for the milk of a woman is changing and sometimes quite rapidly so, and still the baby continues to thrive. It also proves that an attempt at regulating the percentages of milk according to invariable rules, while circumstances of surroundings and individual health—perceptibly changed or not—may differ, is liable to be very deceptive. Altogether, no iron-clad rule holds good for a living body, in which organic assimilation is not regulated by the fixed laws of crystalization. This is, indeed, proved by nothing better than by the variability of the constituents of good milk. According to the very figures presented by Dr. Rotch himself fat may vary from 2.07 to 4.37, albuminoids from 1.08 to 3.27, and still the milks exhibiting these wide differences are "normal."

In regard to the percentages of fat in cow's and in woman's milk the results of chemical analysis have lately changed in favor of the latter. But the general principles in regard to fat feeding, its effect on digestion, and the normal occurrence of fat in the healthy fæces of an infant fed on normal nourishment (breast-milk) are not therefore altered.

Neither mathematics nor chemistry alone direct the organic economy. If that were so, the chemist Soxhlet—otherwise so deserving and justly famous—would be justified in the advice he coolly gives the physician, to add milk sugar when there is no fat in the food and thereby to obtain the necessary amount of carbon-hydrates. Fortunately organic chemistry is not identical with physiology.

The methods of Biedert and Arthur Meigs are based upon these modern analyses of milk. The former prepares a cream mixture which contains 1 per cent. of casein, 2 of fat and 4 of sugar. It is to be mixed with milk in different proportions. One of the reasons urged by him for the addition of cream is the greater dilution (accomplished by my cereal decoctions) of the cow casein, the difficult digestion of which he takes for granted. The mixture of Dr. Meigs is well thought of by many phisicians. But it is too easily influenced by irregularities and by accidents happening to the cream while being obtained, and to the milk sugar solution, to be proof against frequent failures and to become popular among the masses. (Jacobi, Intestinal Diseases, p. 82.)

‡Cow's milk is either alkaline, or neutral, or acid. The constant recommendations of five per cent. of lime water for the purpose of alkalization is therefore far from exact, and from strictly scientific. Besides, how much alkalization is effected by one and a half drachms of lime water? They contain exactly, or are presumed to contain, one-eighth of a grain of lime.

Lime water, the liquor calsis, is a saturated aqueous solution of calcium hydrate whose percentage varies with its temperature. At 59° F it contains somewhat over 0.17 per cent (1:600), in rising temperature less, at the boiling point 1 part of lime in 1,300 of water. Itr edissolves as the liquid cools. If the food containing lime water be given at a temperature of eighty or ninety degrees, part of the lime is thrown out. Lime water warmed loses most of its alkaline reaction: it is markedly alkaline when cold, only faintly so when boiled. An experiment made with good milk from the household supply gave the following results: reaction acid, also on boiling. One-twentieth part of lime water added to it changed the reaction but slightly, it remained acid. The mixture being boiled, reaction remained the same. When again cooled and shaken up, it was still acid, but slightly less so than before the dilution of the milk with lime water.

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take some exception to this broad statement. Saliva and pancreatic juice are good for something better than idle elimination, and "nature" prepared the animal young from the first moment for more than mere pepsin digestion. The proof Dr. Rotch refers to can be experience only. Mine has taught me somewhat differently from the axiomatic positiveness of his assertion. But it must be far from me not to present Dr. Rotch's case in full. His standing and merits are such as to give him a hearing wherever and whatever he discusses. His rules, which moreover may be modified by my method at any time, are thoroughly good, they are scientific, exact and well thought out. Moreover, they are proven to be practicable. No matter whether it is the careful handling of a cautiously prepared milk, the methodical composition according to percentages, or the faithful pasteurization, or all of them, the results are good. I know of a number of babies who in health and disease have done well on the protracted use of the laboratory milk. Only one observation struck me in a few cases. The formation of the muscles and particularly of the bones appeared to be slow, the teeth came a number of weeks or even months too late, the cranial bones turned slightly soft in a few instances. In a few such cases I had to add animal broths or juice before the usual time; in one I tried phosphorus (elixir phosphori), which was rejected; in others it was well borne and useful. But taken all in all, the method appears to be sound and successful, as far as it can be so with cow's milk and the casein of cow's milk. It is to be deplored that for the present it is a method only for the rich; mine has the advantage of being one for the people, both rich and poor. If, or as long as the circulars of the laboratory will keep free of pretentious exaggerations—they have been taking that turn lately—the profession will do well to rely on it, or its like, as one of the means of furnishing the baby a food deprived of dangers, and in most cases sufficient. When found insufficient as regards tissue building, cereals can always be furnished in the same mixture. The empirical knowledge of their beneficial effects, with which we have been furnished for more than a generation, has lately again been tested experimentally by Springer, of Paris, who improved the development of bone by a decoction of mixed cereals boiled for hours in succession. This long duration of the boiling process is, however, not demanded.

Like Professor Rotch, Professor G. Gaertner,* of Gratz, employs the centrifuget for the purpose of obtaining a milk resembling that of woman. The latter was found by Escherich to contain casein 1.82, fat 3.10, sugar 6.23 per cent. The average of many examinations of cow's milk resulted in casein 1.76, and fat 1.81 and sugar 2.4 per cent. That of "fat milk" contained casein 1.76, fat 3 and sugar 2.4 per cent. This "fat milk" is obtained by so arranging the tube which expels the cream from the centrifuge separator that just one-half of the milk contained therein is expelled and collected. In this way, as casein, sugar and minerals are not affected at all by the process of centrifuging, the percentage of the latter is not changed at all, while that of the fat is doubled. The difference between Gaertner's and Rotch's methods is this, that the former is applicable to the large majority (but that only) of infants who require cow's milk appropriately prepared; and that the latter permits of all sorts of changes and percentages, and of all adaptations to the requirements of both the well and the sick, according to the opinions and intentions of the physician in every individual case.—*Pediatrics*.

A Philosophical Explanation of a Noted Miracle.

A specious *simulacriste* has lately come to grief and punishment after worrying the great Parisian neurologists and after having been the subject of the most remarkable curative miracle ever performed at the grotto of Lourdes. It appears that this expert malingerer—a hatchet-faced and hypocritical individual named Delanoy—first appeared at the Saltpetriére in 1883, during the services of M. Charcot; from the hospital he went to the Hotel Dieu, where Dr. Gallard treated him for three months. Two years later he turned up at the Necker Hospital—always with locomotor ataxia—where Rigal subjected him to the most rigorous anti-ataxia treatment—the liberal application of the acute cautery on both sides of the spine, which our imposter suffered with a heroic fortitude for four months, rather than go out and work. From the Necker and baffled Dr. Rigal, he was next found at the Laénnee Hospice, where the great Dr. Ball industriously filled him with nitrate of silver, bella-

*Uber die Herstelling der Fettmilch.
Prof. Escherich. Die Gaertnersche Fettmilch, eine neue Methode der Sauglingsernahrung. Both in Wiener Med. Woch. 1894.

† Recommended for the preparation of children's milk in my "Intestinal Diseases, 1887, p. 28.

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donna and morphia, to no purpose. The Charité was his next abiding place, but Ferrecol decided the man was an incurable and had him transferred as such to Bicétre, from which he managed to escape. The next year he appeared at the Cochin Hospital, during the service of the late Dujardin-Beaumetz, who in the course of two months suspended the martyr hero by a French modification of Sayer's suspension apparatus, some 52 times without any seeming benefit. Having exhausted the Paris hospitals, as well as the patience and ingenuity of their great masters, Delanoy concluded that it was about time to recover, and to that end he had himself transferred to Lourdes, where he arrived in August of 1889. As he dragged himself to the grotto, the seeming torments which he endured wrung yells of agony from the sufferer, to that degree that they called the attention of all the assembled pilgrims. At the grotto he received the sacrament, and with a cry of joy suddenly regained his normal health and strength.

The clergy of Lourdes made great capital out of this miracle, and it goes without saying that Charcot, Ball, Rigal and all the great neurologists were solely puzzled. The man was evidently so much under the protection of the saint that soon after his recovery he received letters with cheques and postal orders asking for his prayers and intercession for the writers, who were either sick or crippled, the latter judging that one who had been so highly favored and miraculously treated could not be without influence with the saints. In time, however, he was forgotten, and to live with out work induced him to retake his old vocation of hospital tramp, and as such we next hear of him on the service of Dr. Dubuisson, at the *Aisle Sainte Anne*, with his old locomotor ataxia in prime working order, where, while being closely watched—he having been recognized as a skillful malingerer—he stole a large sum of money from the pharmacist of the institution and was arrested, and all his deceptions unveiled. The clergy of Lourdes had looked upon his cure as a most conclusive evidence of the superior power of theoretic medicine and of miracles over purely philosophical medical science, but the exposure of the deception has cast a dampner over the zealous and pious believers in miracles, as well as an inescapable gloom and discontent over the fathers at Lourdes. After his arrest it was learned that as an evidence of his great gratitude, that while at Lourdes and while being entertained by the admiring clergy he had relieved a couple of them of all their surplus wealth.—*Pacific Medical Journal.*

Tetanus Treated Successfully With Antitoxin.

Dr. C. J. Timmermann, in a paper read at a meeting of the Montgomery Co. (N. Y.) Medical Society, reports a case of tetanus in a human subject, in which the use of tetanus antitoxin was followed by excellent results. The patient had received a severe burn, which had been dressed before the doctor arrived, with scraped raw potatoes fresh from the cellar—"a most excellent habitation for the bacilli of tetanus," remarks the author. Seventeen days afterward the patient complained of a stiffness of his jaw, which he had noticed for several days. The advancing tetanic symptoms were at first so well controlled by physostigmine, morphine and chloral that it was not until three weeks after the injury that the antitoxin was used. There was an apparent fixation of the muscles of respiration, and the patient was almost unable to breathe ; nearly all the muscles were in a constant state of spasm. The doctor administered anodynes "with a more free hand," but the patient then grew so much worse that he availed himself of the only remaining chance. He gave the first injection of 25 c. c. of tetanus antitoxin, in the lateral part of the abdomen ; the serum was very rapidly absorbed, and later he gave another 25 c. c. The following morning he gave 10 c. c., and intended to give the remaining 15 c. c., but the patient was so exhausted he waited until the next morning. A week after the initial dose had been given 10 c. c. more of the serum was injected, and in the evening 15 c. c., when the spasms were almost subdued. Only chloral was used afterward, and the patient was convalescing. Dr. Timmermann believes this to be the first case in this country where the tetanus antitoxin has saved human life.—*Medical Times.*

A TEST FOR INCIPIENT DIABETES.—Prof. V. Noorden says he has discovered a new means of diagnosing diabetes in its very earliest stage, or even a hereditary tendency thereto. He gives the patient 100 grains of grape-sugar, which, in the normal subject, has no effect, but in the incipient diabetic produces glycosuria. If this prove correct it will be most useful in gaining for the diabetic the earliest possible treatment.—*Medical Record.*

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Original Articles.

Non-Operative Treatment of the Septic Diseases of the Female Organs of Generation.

By F. SHIMONEK, M. D., OF MILWAUKEE.

Professor of Gynæcology and Clinical Gynæcology in the Milwaukee Medical College, etc., etc.

This is a subject of a great deal of vital importance, because it has for its object the laudable purpose of preventing, arresting and curing, septic complications which might eventually lead to a sexual disorganization, or to death.

When sepsis has involved and disorganized the tubes or ovaries, or both (resulting, however, more from sins of omission than from sins of commission, however equally blameworthy), the attendant possesses the power and right of curing the patient by surgical measures, *i. e.*, the removal of the reproductive organs, or parts of them, diseased to an extent incompatible with physiological functionation, and a source of constant ill-health. While such extreme means are perfectly legitimate, and, at times, the last and only resort for the purpose of saving life, when sound and conscientious work has failed, yet it is safe to affirm that it would be an extremely rare thing to do if practitioners would always observe absolute surgical cleanliness in operations upon the genital organs of a woman. To further the cause of asepsis, teach the pregnant woman the necessity of placing herself under the charge of a competent physicion toward the end of pregnancy, in order to carry out in detail, the preventative, or aseptic measures. For it is a well-established fact that a great many, if not the majority, of gynæcological cases are due to sepsis, and nothing more.

As a class, the midwives are absolutely ignorant of even the elements underlying asepsis, and some of them do not exercise even *ordinary* cleanliness. They certainly contribute a great percentage to the income of the gynæcologists.

The treatment, which is based upon our knowledge of the causes of septic inflammatory diseases, may be divided into:

Prophylactic, palliative, and curative.

Infection takes place by the introduction of staphylococci or streptococci; usually both varieties are found existing together, one or the other predominating.

In gonorrhœal inflammation, the gonococcus is usually found in connection with septic germs forming mixed infection; the liability of such infection is to produce the most violent sepsis, frequently speedily terminating in death.

The vagina is a natural living place of a variety of micro-organisms. While they are absolutely harmless, from the loss of virulence of the germs, and the resistance of the mucous membrane, yet women are constantly threatened with auto-infection; if favorable opportunities offer themselves sepsis lights up suddenly, such as solution of continuity or introduction of active germs from without, by dirty fingers or septic instruments, etc. The result of treatment depends upon the stage, or the way in which the infection is attacked. Pelvic inflammation, or general infection, is, to a great measure, if not entirely, preventable if proper and timely treatment be instituted.

"To just the extent of intelligence with which the physician treats these cases, will he have the fewer cases of sepsis originating in his practice." When the disease is fully established, then only amelioration is possible, and, at times, everything is for naught, depending upon the violence of infection and upon the condition of the patient.

In some puerperal patients, infection travels with such terrible rapidity that the attendant does not realize in time the danger.

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This is also true of gonorrhœal infection; tubes and ovaries become involved before diagnosis has been made.

Prophylaxis, therefore, is of paramount importance.

Thorough sterilization of instruments by boiling; hands, by scrubbing in soft soap and hot water, and immersion for several minutes in $\frac{1}{1000}$ bichloride; shaving of vulva and mons veneris, and a careful disinfection of vulva and vagina. Simple douching of the vagina does not suffice; it is necessary to straighten out the rugæ, and scrub with a brush or gauze, and then render aseptic by douching with creolin or bichloride.

I would advise a thorough antisepsis of the vulva of a woman who expects soon to be confined. Preceding labor by several days, there should be a removal of hair and a thorough disinfection, and a repetition of antiseptic sitz baths at least once daily until labor shall have commenced; then, again, a thorough scrubbing and irrigation, with possibly a gentle douching of vagina with creolin, which, I think, is not objectionable, as carbolic acid and bichloride are, because it does not destroy the softness and smoothness of the mucous membrane as the others do. The possibility of mercurial poisoning is also not to be overlooked.

After labor, a vaginal irrigation with 2 per cent. creolin is not only not objectionable, but, after forceps delivery, a thorough and repeated douching is absolutely demanded, because there is a greater likelihood of solution of continuity, howsoever carefully and skillfully instruments may be used.

The mildest cases must be attacked scientifically and vigorously, as they are very liable to develop into the most severe infection, followed by death.

Mild cases of gonorrhœal or septic vaginitis, or endometritis, demand as thorough and careful and prompt management as do severe ones.

The indefatigable labors of Pasteur, Lister and others, place the modern treatment of sepsis upon a scientific basis. It can, with positiveness, be stated that death has been vanquished.

The old treatment, based upon imagination, which consisted of quinine, opium, and febrifuges, is entirely out of date, but, I am sorry to say, deaths from sepsis to-day are yet frequently attributable to this obsolete treatment; those who resort to it are simply playing with fire. Never use quinine and opium in the place of absolute asepsis. However, these remedies are valuable when simply used to meet positive indications. Quinine and strych., for their tonic effect, occasional doses of opium hypodermatically, for the purpose of allaying restlessness, or to still unbearable pain, are not objectionable, but, when used for any other purpose, it is decidedly wrong.

"It is well to remember that opium, in any form, depresses the heart, lessens the excretive and absorptive powers of the tissues, and inhibits peristaltic action of the bowels, all of which effects are contra-indicated in this disease."

Therefore, never use it unless it be absolutely called for.

After labor or miscarriage, whenever elevation of temperature and pulse takes place, irrigate first the vagina with some antiseptic, which may be repeated several times in succession, but, if no improvement follows soon, irigate the uterine cavity, and, in the event of that failing, we are perfectly justified to curette the uterine cavity, but, in order to render it aseptic, the curetting must be followed by an antiseptic douche, and, I think, a light iodoform gauze pack is very proper; firstly, to get the antitoxic effect of the iodoform; secondly, to facilitate drainage; the last, in my opinion, far outweighs the action of the iodoform, although the effect of iodoform is not to be disregarded; the iodoform gauze is certainly preferable to drainage by simple gauze. Pulse, according to my experience, is a far better criterion than temperature in guiding us in the treatment of such cases, and prognosis can much better be judged of by a careful observation of the circulation.

Rest is an essential factor in combating the disease, and in assisting nature in carrying on the battle. Sexual and physical quietude must, by all means, be enforced; she must be placed in bed, coitus strictly interdicted, and even simple sexual excitement avoided. Many a threatening pelvic inflammation has been lighted up by the congestion resulting from sexual excitement. Great care should be exercised during menstruation; all indiscretion must be avoided, and absolute rest enjoined.

In addition to absolute asepsis, as already men-

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tioned, thorough hydragogue evacuation from the intestines is extremely beneficial for several reasons:

First. The unloading of a full colon lessens congestion by removing pressure from veins.

Second. There is no better way of so thoroughly draining the pelvic cavity than by emptying the venous and lymphatic circulation; the thirsty vessels attack with avidity the surrounding area, carrying away effusions and exudations; also this drainage renders the intestines themselves clean; thereby one source of additional infection is decidedly decreased. This may be of minor importance, but, nevertheless it is a factor which should be heeded, as it places the patient under the most favorable circumstances possible, and gives nature every chance to succeed in her fight.

The best drugs for that purpose, in my opinion, are mag. sulph., given in small and repeated doses, but, occasionally, it is not retained; then calomel, in small doses, repeated and assisted by high rectal injections, and preferably of a mixture of mag. sulph., glycerine, and water, in equal quantities, one ounce each. This has frequently served me very well when irritatibility of the stomach has prevented the administration of drugs. Hot vaginal douches are useful, of a temperature of 110°–120°, given in the dorsal position, of twenty or more minutes duration, two or three times daily, of sufficient quantity to produce the desired secondary effect upon the blood vessels, that is, contraction.

Allow me to repeat, the water must be hot to contract the vessels, and position must be such as to get the effect of as much water as possible at once. When given in a squatting posture it is not possible to get as much effect, because the water runs out as fast as it runs in.

Depletion by these two methods, drainage by catharsis and by hot water irrigation, are of great value, but, if still greater effect be considered necessary, scarification of the vaginal portion will at times add decidedly to the benefit derived from the other means.

I may be pardoned if I mention, in some detail, how to properly deplete by scarification:

Expose the cervix by a speculum; render aseptic, of course, and puncture it deeply in several places, so as to cause free bleeding; ten to fifteen punctures; allow it to bleed as much as it will; the whole amount will probably not exceed six ounces. It goes without saying that depletion, by loss of blood and by purgation, is only applicable in cases and general conditions that will not be aggravated by the loss of strength.

Hence extremely debilitated patients will not always bear the loss without detriment. It is surprising, however, that even quite weak women will not only not be worse, but, by the relief from pain, be decidedly better, when thoroughly drained. Nevertheless, it must be used in such cases with caution. If it be desirable to withdraw a larger amount of blood, glycerine tampons may be used following scarification; even if the glycerine fails to increase the hemorrhage, the transudation of serum from the overloaded vessels, caused by the affinity of glycerine for water, will be beneficial. The other benefits to be derived from tampons are, by lifting the uterus the pampiniform plexus becomes straightened, thus improving circulation; it also gives support by pressure to weakened vascular walls, etc.

Counter-irritation, in acute cases or pelvic peritonitis and cellulitis, is of no particular benefit; it is rather contraindicated, but, in chronic cases, it is decidedly valuable.

Iodine, applied freely to the vaginal vault and lower part of the abdomen, is often followed by good results. The galvanic current is also frequently used; intra-uterine positive pole in hæmorrhagic complications, and negative where the stimulating effect is required; the dosage of about from twenty to fifty M. A.; daily sittings from five to fifteen minutes.

Directly, there is no influence upon the disappearance of the exudates by any of these methods, but by stimulating circulation and the lymphatics, nature is assisted in removing the inflammatory products.

Internally, supporting and alterative treatment must be employed, and, in fact, I believe that proper constitutional treatment, with rest, is far preferable to local alone for the purpose of removing the last vestiges of the inflammatory products. But it is from the combination of these ways and means that the greatest benefit accrues.

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CONCLUSIONS.

First. Strict antiseptic precautions for purposes of prophylaxis.

Second. Antiseptic irrigation and drainage, both by direct means, and by hydragogue cathartics.

Third. Internally, tonic and alterative treatment, galvanism and iodine locally.

DISCUSSION.

DR. REINEKING: I did not hear all the papers that were read on the subject. I wish, however, to make a few remarks on the paper of Dr. Shimonek. Practitioners are apt to be judged by the rules laid down in these scientific papers. If this were to be the case, I think that it would place physicians in a somewhat embarrassing position in regard to managing their cases of obstetrics. I allude to directions for preparation of patient, disinfection and shaving of the external parts. I think the shaving of the labia is an unnecessary hardship. If ordinary cleanliness is secured with a liberal use of soap and water, the shaving of the external genitals, as a rule, can be omitted. When the growth of hair is excessive it can be shortened with scissors; it is a source of annoyance at the time, and, I believe, a source of discomfort afterwards, to have the hair shaved off the labia; and, furthermore, in many cases, this cannot be followed out; the physician may arrive at a time when it is too late to do this; so that if the rules laid down in the paper are to be taken as the standard of proper treatment, we may find ourselves in difficulty.

DR. HILL: In the paper read by Dr. Shimonek, on medical treatment, the use of quinine and opium were almost unqualifiedly condemned, and I would like to say a word in behalf of quinine and opium, and, perhaps, whisky. Opium, in moderate doses, is not depressing. It is very sustaining, it has a quieting influence on the temperature, and, at the same time that it alleviates the pain, it prevents excessive metabolism in the body, and the extreme waste in these cases is one of the dangers that menace the patient. Therefore, I think, opium is indicated. Of course, if we were to use large quantities of the drug, so as to so mask the symptoms, and neglect the antiseptic treatment, it would then be contraindicated. Quinine acts as an antizymotic, and while, if you do not clean away the nucleus of infection, it will spread much more rapidly than you can expel it with that or any other drug, yet I believe that it has a good influence upon the septic condition of the patient.

In the paper read by Dr. Puls, where he condemns the use of gauze drainage, I must disagree with him. I believe it is a good practice to drain the cavity of the uterus by means of iodoform gauze.

DR. FITZGIBBON: I wish to correct a mistake on the part of Dr. Fish in regard to the treatment of the vagina. It has been recently proven, beyond doubt, that the normal secretions of the vagina are acid in reaction, while the abnormal, or pathological secretions, due to the presence of pathological germs, are alkaline or neutral.

DR. FISH: Ten years ago, I learned that there were some twenty-five or thirty forms of bacteria in the vagina, and, in the last paper I read on that subject, I learned that the number had increased to something like thirty-five or forty, and that the normal secretion of the vagina was really alkaline, but was rendered acid by the action of these bacteria. The two chief sources of septic trouble in the pelvis, are, as has been said, gonorrhœa and the puerperium. I think the latent form is more dangerous. I am not very much afraid of an acute case, for we very seldom have pyosalpinx or inflammatory disease of the pelvic organs following. It is the latent form which is the most to be dreaded.

As to gauze drainage, I believe that gauze is the best thing we can use to drain the uterus. It acts by capillary attraction, and drains every part of the uterine cavity, even after curettage. In case of pyosalpinx, it is well to dilate and curette the uterus thoroughly up in the angles of the uterus where the Fallopian tubes start, and then pack with gauze up in these angles. The interior of the uterus, as you all know, is triangular in form, and to pack as nearly as you can towards the angle is good practice. I have read, recently, a statement by one author, who claims that he can drain the tubes every time by this method, in cases of pyosalpinx; but, when this is not possible, then the radical operation is called for.

I, myself, must agree with Dr. Reineking that we cannot resort to the razor in obstetric practice.

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If we insist on it in all cases, our practice will be limited. We can use some antiseptic wash externally, and render the parts fully as aseptic as if the mons veneris and labia were shaved.

Of course, drainage is the principal thing to be accomplished in acute cases of sepsis, and, in cases of pyosalpinx, where the tubes are falling down into the posterior cul de sac of Douglass. We can drain through the vagina, and, I think, a glass drainage tube is preferable to a rubber one; and the practice, I believe, now, in these cases of septic inflammation where there are pus tubes, and the uterus is bound down, is to do vaginal hysterectomy in preferance to abdominal hysterectomy.

I agree with the author, that the chief source of infection is through the uterus; the exfoliation of the placenta opens up avenues by which sepsis can be taken up, which, passing through the cellular tissue, sets up a cellulitis; also, it may set up peritonitis, eventually terminating in a pyosalpinx, which may rupture in between the folds of the broad ligaments in the cellullar tissue and produce abscess of the pelvic cavity, or set up a pelvic cellulitis.

DR. SHIMONEK: I do not see where Dr. Reineking, Dr. Fish, Dr. Hill, and myself disagree. It is only a question of degree. Dr. Reineking advises the removal of hair with scissors; I simply advised the removal of it, but an entire removal is preferable. It is only a difference of degree, and we know positively to-day that hairy surfaces cannot be made aseptic unless the hair is absolutely removed. Who would undertake an operation on the skull without a thorough shaving of the skull? We know that the follicles of the hair and the parts immediately around the hairs are the seat of micro-organisims that cannot be destroyed unless the hair is shaved off. I did not advise the procedure in every case; I simply advised teaching women to place themselves, shortly before confinement, in the hands of a competent physician. If he can disinfect the parts otherwise I do not object.

Respecting Dr. Hill's criticism of the use of opium and quinine, we agree. I stated distinctly in the paper, that those drugs are not to be used in *place* of asepsis, but where there are indications to be met by those drugs, such as toning up the system and quieting pain, they are certainly valuable.

Dr. Gow, of London, has demonstrated, beyond controversy, that the secretion of the vagina is *primarily alkaline*, and only becomes acid by the action of micro-organisms there present.

He experimented on women whose uteri had been removed, for pathological reasons, and thoroughly rendered the vaginæ free from all germs, immediately introducing sterile glycerine tampons for the purpose of excluding germs, and catching the secretion from the vaginal lining, and, by means of litmus, showed its alkalinity.

Influence of the General Nutrition upon the Course of Ophthalmia in the New Born.

H. V. WUERDEMANN, M. D., MILWAUKEE.

Honorary Member of the Association; Director and Secretary Wisconsin General Hospital Association; Oculist and Aurist to the Children's Hospital and to the Milwaukee County Hospital for the Chronic Insane; Secretary Section on Ophthalmology American Medical Association, 1895.

Read at a meeting of the North western Medical Association at Stevens Point, Wis., Jan. 14th, 1896.

Abstracted by C. W. Root, M. D., Milwaukee.

The state of the general nutrition is a recognized element in all local and general affections, and particularly in the infectious diseases. When tissues lack proper nourishment through defective assimilation, insufficient or improper food, or deficient local nutrition, they do not afford the usual resistance to infected germs and their toxins. In 1893 Randall reported a case which, in spite of most prompt and energetic treatment, resulted in utter blindness. Such candor and honesty in reporting is exceptional. Several cases have been observed in my practice.

CASE I. A full term infant six days old who had ophthalmia of four days' standing, with no corneal complication, and in which a favorable prognosis would ordinarily have been given. Both parents denied gonorrhœa, but mother acknowledged lucorrhœa of several years' standing before marriage. A trained nurse was obtained and usual treatment prescribed: bi chlorid wash, atropin ointment, and collyrium of hydrastin; and for two weeks the case progressed favorably, the discharge having about ceased and the swelling of the lids about subsided.

At this time, the weather being intensely hot, the mother developed gastero-enteritis, and the

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baby was immediately affected by this condition. She had noticed that the milk was less in quantity and thinner, and that the child had colic and was very restless after nursing. The corneæ became hazy, although the discharge was scanty (silver treatment had been given up for ten days). The wash was changed to boric acid 3 per cent., atropin-iodoform ointment continued with the hydrastin collyrium, and mother given Pabst Malt Extract. The corneæ gradually became more opaque, without ulceration, the superficial epithelium remaining intact throughout the whole course of the disease, and the corneæ staining but slightly to pyoktanin (1:1000), which was later used.

The child lost flesh for a few days, but soon recovered as the mother's condition improved. Mother and child were sent to Wisconsin General Hospital, and when discharged after a number of weeks there was total leucoma of the corneæ, which later cleared up about the limbus, but the eyes became staphylomatous. Double iridectomy was made, which afforded some vision and diminished the intraocular pressure.

CASE II. Child one week old; premature birth at seven months. For three days previous there had been a muco-purulent discharge, but the corneæ were intact. With the aid of a trained nurse, treatment was begun similar to Case I., silver being used for a few days. The mother gave a history of leucorrhœa and ovarian disease. She had post-partum hemorrhage, and was low several times during two weeks after delivery. She could not nurse the infant, which was put upon sterilized milk, other foods being afterwards tried.

On the fourteenth day of age the corneæ was opacifying in a striated manner under the epithelium, beginning from the centers and extending to the periphery, but did not stain from the yellow collyrium.

The general condition became worse, the corneæ softened, going into a state of kerato-malacia, and on the twenty-first day of its age it died of inanition.

CASE III. Child three weeks old had had a muco-purulent discharge since the third day. Treatment by family physician with listerin and boric acid washes had reduced the swelling, but the discharge still persisted. The father had contracted gonorrhœa about three weeks before the birth of the child.

No evidence of corneal ulceration was found, but a guarded prognosis given, and warning of the necessity of the mother keeping up her nutrition. Treatment similar to the preceding cases was employed.

On the third day after consultation the mother developed fever and the milk stopped. The child was put upon Fairchild's Peptogenic Milk Powder first, then Nestle's Food, but nutrition remained poor, and child was subject to many attacks of colic.

About the thirtieth day of the child's age, although the discharge was very slight, one cornea was noticed to have a pearl-like lustre, and was seen to be infiltrated. The other eye soon followed, the anterior epithelium remaining intact for two weeks and then coming off like a piece of exfoliated epidermis.

On the seventh week both corneæ became staphylomatous, and the child's nutrition was very poor, and it died from marasmus on the thirteenth week of its age.

Special points of interest are:

1. The occurrence of corneal infiltration without superficial ulceration, followed by corneal staphylomata and leucomata, with resulting blindness, in cases of seemingly moderate degree in which a favorable, although guarded, prognosis would customarily be given. The amount of conjunctival inflammation was not at all in proportion to the corneal disease. At no time were there pressure symptoms.

2. Cases I. and II. have no gonorrhœal history, and subsequent examination in the mothers by their attending physicians seem to negative this condition. Case III., although a fresh specific infection, had but moderate inflammatory symptoms.

3. Cases I. and II. preserved the corneal epithelium practically intact, and Case III. kept it for seven weeks.

4. The exciting cause of the corneal malnutrition was in the first instance temporary disturbance of general nutrition due to intestinal trouble in the mother; in the second, premature birth and bottle feeding, and in the other marasmus from bottle feeding.

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5. Cases II. and III. died of malnutrition.

The three cases were cited in detail to show that instances appear, which are properly attended, in which other factors than that of specific infection obtain, and which should modify our prognosis.

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Treatment of Eczema.

BY LOUIS F. FRANK, M. D., MILWAUKEE, WIS.

Read before the Wisconsin Northwestern Medical Society, January 14th, 1896.

When we consider that at least 33 per cent. of all skin diseases belong to some form of eczema, a frequency which must naturally bring it within the range of all general practitioners, the great importance of its careful study becomes obvious. When we also consider that the prognosis of almost all forms of eczema is favorable, it stands to reason that it becomes the duty of every physician to devote his attention to the underlying principles that govern the therapeutics of this every day form of skin disease. Eczema being, however, an obstinate affection, it is by no means an uncommon observation to find some physicians to regard the same as a trivial matter and sometimes even sharing the belief of the laity that a treatment of the same is unnecessary and that a cure may even produce evil results. It has oftentimes been my experience, especially among the uneducated laboring classes, to ask for advice only after the disease had taken on such terrible dimensions, that medical interference was found necessary to be resorted to. It is quite a common belief amongst a certain class of people, for instance, to consider infantile eczema as necessary to the welfare of the child, and it is to be very much regretted that some physicians give weight to this opinion. I have as yet to see the case in which a proper treatment applied to an eczematous condition has been the source of any harm to a patient nor have I ever witnessed any serious internal disturbance in children or elderly people set up by the sudden healing of an eruption. The matter would not be considered at all, if this view did not linger as tradition among the laity. Nor need there be any fear of curing eczema as rapidly as possibly, as an abundant experience has shown that not only no harm comes from it, but that the general well-being is promoted if a source of pain and irritation has been removed. Hebra suggested that when a protest against a cure comes from a physician, it is quite likely that it is due to failure on his part to effect it.

The first principal condition in the treatment of an eczema on which the success of a cure is dependent, is the detection of the true cause. Therefore, the first question to be asked is "Where does it originate?" It cannot appear spontaneously. Truly it will sometimes happen that we are unable to detect a discernible and plausible cause. But on close examination you will find these cases to be in the greater minority. The majority of the forms of inflammatory conditions of the skin with the tendency of exudation in the direction of the free surface of the skin, following the points of irritation, or in other words, what we term eczema, can be clearly traced to definite, usually common influences. And in many cases it is advisible to examine into the every day sphere of the individual and not to search into remote causes, as reflex inflammations, vaso-motor disturbances, trophic anomalies, scrofulous disposition and similar suppositions.

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By proceeding in this manner the question "Where does the eczema originate from?" will often be readily answered. Therefore, make it a rule to first examine into the etiology before considering the local lesion, as the latter is in most cases a secondary product, due to some inciting cause.

These inciting causes may be external and internal. As the inciting factors of eczema are innumerable it has become customary in the varions text books to classify them in different ways. As this seems practical I will not depart from the rule, and present to you the following classification I have found most useful.

INCITING CAUSES.

EXTERNAL.
- Chemical.
- Mechanical.
- Thermal.

INTERNAL. Disturbance of Internal organs and functions.
- Valvular.
- Asthma.
- Dentition.
- Alimentary.
- Liver.
- Bright's disease.
- Genito-urinary.
- Nervous.
- Chlorosis.
- Gout.
- Diabetes.

Before considering the treatment of these various forms it will be necessary to allude to the local modern treatment of eczema, as in a great number of cases internal remedies are not demanded and *vice versa*. The two vital principles that must guide us are asepsis, rest and stimulation. Their application will depend on the stage in which the eczema happens to be. By rest we mean freedom from all sources of irritation—for example not only mobilization of a part, but exclusion of air, the discontinuance of soap and water, the use of fixed dressings and, most important of all, the relief of the pruritus.

The first positive procedure in all cases should be to remove the crusts and scales completely, so that the remedy may be brought into absolute contact with the diseased surface. This is easiest effected by plain almond or olive oil applied constantly on strips of flannel. When all the crust are removed the patch is ready for medication. The choice of drugs then to be applied depends entirely on the appearance of the lesion, whether it is in a state of active hyperæmia or in need of stimulation. In this connection it is absolutely necessary to diagnosis one of the six variations of eczema, which are the vesicular, pustular, papular and erythematous, rubrum and squamous.

The local treatment of the vesicular form, which is characterized by burning, itching, redness and the appearance of closely aggregated, clear vesicles, enlarging, coalescing and rupturing, exuding a clear, plasmic fluid, demands that no soap or water should be employed, as in the most instances it would irritate. The next indication is to apply soothing remedies, as most conveniently accomplished by sedative and slightly astringent lotions; for instance:

℞	Tr. opii	
	Liq. plumbi a subacetati	āā ʒij
	Aquæ	ʒiv

When extensive surfaces are involved the carron oil is valuable and inexpensive, with perhaps the addition of one drop of cresote to the ounce. A very favorite prescription for this class of cases is Startiu's lotion:

℞	Zinci oxidi	ʒss
	Pulv. calaminæ prep.	℈iv
	Glycerinæ	ʒj
	Liq. calcis	ʒvij

If there should be much discharge a dusting powder is serviceable, for instance:

℞	Pulv. amyli	ʒvj
	Zinci oxydi	ʒjss
	Pulv. camphoræ	ʒss

This foregoing treatment is adapted to all acute inflammatory stages of eczema, whether it be vesicular, rubrum, papular or erythematous.

When all symptoms of acute inflammation have subsided the plan of stimulation must be adopted and this may be brought about in various ways, especially by ointments. These are of especial value in the infiltrated and scaly eczemas. A good rule to follow in most cases is to begin with a soothing preparation; to feel the way, so to speak, even if the disease looks as if something more stimulating may be required. An excellent preparation for such cases is the Lassar paste:

℞	Ac. salicyl	ʒss
	Amyli	
	Zinci oxydi	āā ʒvj
	Vaselini	ʒiij

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This is spread on a soft cloth, preferably muslin, and applied to the affected part by means of a bandage. Other drugs that are useful in the scaly and thickened form are resorcin, 5 to 15 per cent.; ichthyol, bismuth, salicylic acids. When we find that the infiltration and itching does not yield to this treatment more stimulation becomes necessary and the remedy in such cases above all others is tar in its various forms. As tar is a remedy that cuts both ways it will be advantageous to try its effects on the skin carefully by milder preparations of tar and I usually begin with the following preparation:

℞	Ol. rusci	ʒss
	Ung. aq. rosæ	℥j

When I find that it is well borne, I increase the amount of tar to one, two and four drams, until I can apply the pure oil of tar (either oleum rusci or ol. cadui) with a stiff brush. This will cause a disappearance of the scaly, infiltrated condition, leaving a slightly reddened skin, practically healed.

Another favorite plan of treatment in those stages where there is no active hyperæmia, vesiculation or oozing is the zinc gelatin preparation used by Dr. Unna, of Hamburg. The formula is as follows:

Zinc oxide	3 parts
Gelatine	4 "
Glycerine	5 "
Water	9 "

This mixture is heated and melted, preferably in a steam-heating apparatus, to the consistency of paint, if necessary, by the gradual addition of a little water and applied on the affected part by means of a brush. After it has become somewhat dry, some cotton is touched to it, adhering and completing an elastic, impermeable dressing, which may remain *in situ* for a number of days.

This, in general, is a short outline of the manner in which the local treatment of eczema should be followed out. But in order to effect a permanent cure we must first of all consider the inciting causes which establish and nourish an eczema and I must refer you to the classification of the etiology of eczema. Of the external inciting causes it will be our effort to remove them, where we suspect their irritating properties. The chemical causes may be medicinal, as tartar emetic, croton oil, turpentine, mercurial inunctia, acids, dyes, soaps, etc., the mechanical causes are so numerous that I will but mention a few, as tight garters, ill-fitting, irritating underwear, parasites, irritations due to artisan trades in carpenters, stone-cutters, shoemakers, and so forth. Exposures to intense heat or cold will in many persons develop an eczematous condition.

All these forms will readily yield to local treatment, provided the inciting cause is removed and the individual is otherwise healthy and it is here where our diagnosis is often shrouded in doubt and uncertainty, for the cause may be due to a disturbance of some of internal organs and where the proper treatment comes within the range of every practical physician. You are then called upon to find any disordered or diseased condition of any bodily function, directing your attention to any possible deviation from the normal. If the eczema is not due to external irritation, it must come from some cause within and the best diagnostitian will be the best dermatologist. Examine into all the functions and correct any mal-condition that you may suspect. In the list of factors which I have given you, you will certainly find in the great majority of cases one or more that may be regarded as an agent which produces and nourishes an eczema, which makes the skin a fertile soil for external irritation and possibly invasion of eczema producing bacilli and germs.

This tendency may be due to any condition of lowered vitality produced by organic or functional derangements, be it of the circulatory, respiratory, alimentary, genito-urinary or nervous system. And if you succeed in bringing these back to a normal condition, and only then, you will have cured that notorious, dreaded and baffling disease, eczema.

EVERY malignant growth of the larynx of intrinsic origin which can be dealt with, should be treated by a radical operation in the absence of a decided indication to the contrary, and the operation should be performed with the least possible delay. And I would go further than this, and lay down a second proposition to the effect that every tumor of the larynx suspected to be malignant, of intrinsic origin, of limited extent, and apparently within reach of free removal, justifies an exploratory thyrotomy in a suitable patient in the absence of evidence of infiltration of the surrounding structures and of affection of the lymphatic glands.—*Butlin.*

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Translations.

A Case of Hemato-Rachis of Traumatic Origin.

By M. O. LAMBRET.

A cartman fell from his cart about five o'clock in the evening, and is immediately brought to the hospital. In the fall the force of impact was against the frontal region; at the same time the patient felt a violent pain which appeared to him due to the bending back of the head between the shoulders.

Next morning at his visit Prof. Folet verified a flasque paralysis of both lower members, total abolition of patellar reflex, total anæsthesia of the lower part of the body to the nipples. There was, also, complete urinary retention with overfilled bladder; the penis in state of semi-erection; pupils normal. The region of the vertebral column appears normal on exploration; there is neither fracture nor luxation; on pressure there is an undefined pain of slight intensity over the first dorsal vertebræ.

Before the possibility of several diagnoses, encouraged by the general condition of the injured, which is apparently very good, Prof. Folet decides to put off the proposed operation until the following day, if the phenomena persist—trepanning the spinal column.

But in the evening the patient presents elevated temperature and dies during the night of respiratory accidents, evidently of bulbar origin.

At the autopsy was found some ecchymoses of slight importance under the hairy scalp and on the forehead, in the cellular tissues a sero-sangeous infiltration at the seat of traumatism. The cranium is healthy, and presents neither bending nor fracture. The meninges are somewhat congested; as to the brain and bulb they are remarkably normal and free from any congestion.

On opening the spinal column the dorsal region appears healthy, but at the third dorsal is noted an extra-dural effusion, which continues, completely filling the spinal canal to the commencement of the fifth dorsal, and then gradually diminishes downwards over the whole dorsal region of the canal, but clearly insufficient to exercise a serious compression. It is not the same with the clot-mass above. This principal clot is formed by red fibrine, imprisoning numerous blood corpuscles in its meshes. It completely surrounds the dura-mater and *forcibly presses it against the spinal cord.*

The dura-mater laid open from above downwards, the cord appears normal until under the clot, whilst further down its venous network is gorged with blood designing along the medullary trunk arborisations formed by the sinuous and dilated vessels filled with black blood, as if the return circulation, suddenly arrested, had not had time before death to take another direction and become re-established by collateral ways. Here, then, existed a compression of the cord of extrinsic and peri-meningitic origin.

Therefore, surgical intervention should have been immediately done. But it is still necessary to make an accurate diagnosis equally immediate. The anæsthesia was complete, the paraplegia was flabby and not painful; these are symptoms of compression, as also symptoms of every other medullary interruption, further symptoms, also, of medullary shock.

What to say of abolition of the reflexes? Here the question becomes complicated by a discussion:

Bastian and Bowley, in fact, have established that the abolition of the reflexes was the result of a partial or complete destruction of the superior dorsal cord or cervical cord, and this, says Bastian, suppressed the dynamo-genic action of the cerebrum and cerebellum on the cord. On his part, Babinski (*Arch. de Med.*, exp. 91), presents opposite conclusions, and on the contrary pretends that flasque paralysis and the abolition of the reflexes are of good augury, and can only lead to conclude in the benignity of "the eminently operable case."

On another side, does not Vulpian announce that one can observe as passive symptoms of medullary shock a complete disappearance of the reflexes, accompanied by paralysis and anæsthesia, and, in fact, the paralytic and anæsthetic phenomena extend very rarely, under these circumstances, to the superior members, consequently quite as in our case?

Another affection might present itself to the mind—the railway spine of the English, well

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known since the work on hystero-traumatism, but the accidents are never so precocious, and break out a few days after the traumatism in a large majority of cases.

In résumé, outside of every well-marked local sign and in absence of any apparent lesion of the bony canal, three diagnoses, on which treatment depends, remain in suspense and possible:

1st. Commotion of the cord.

2d. Destruction of the cord by rupture or by hemato-myelia; and

3d. Compression by hemato-rachis.

What to do? Trepan immediately. Be it so. But, also, in the present relative good condition of the patient, why not wait till next day or the day after that (as Prof. Folet had decided), in order to see whether the return of sensation and motion would not establish the diagnosis of medullary commotion. The general condition, I repeat it, and the complete absence of palpable lesions gave authority for this expectation, which, unfortunately, was fatal to the patient.

Trepan! But where? Here comes a sign of importance, which, by its little intensity, had only relatively drawn attention, and we describe it as much more voluntarily as we have the hope that some day it might be useful to the clinician in his embarrassment; we mean the symptom *pain*.

Alone, pain, in fact, and as vague and unprecise in its seat, as well as in intensity in its manifestations, could lead us to suppose what really might be in the vertebral canal. This pain, as we have seen, extended from the middle cervical region to the upper dorsal region, and was provoked only by pressure, but very different in that from the pain occasioned by a luxation or fracture, which is so definite, so marked, localized and intense; whilst the latter was only confused, profound and relative. However, the autopsy no less demonstrated that there was the trouble and that there trepanning should have have been done.

In closing we would be tempted to conclude, struck by the benefits that the operation might have logically resulted in, according to our necropsy, that all medullary traumatisms or *suspected as such*, are amenable to immediate operation. This would be to operate with the certainty of making a useless operation most of the time, it would be as if one wished to place 95 per cent. of cases fatal in his statistics, but who is so bold and audacious and would dare to support such conclusions?—*Le Bulletin Medical, 1895, No. 73, pp. 864-5.*

H. P. W., *Tr.*

A Case of Traumatic Mastitis in the Male.

M. Duguet presented a cast of the chest of a cavalryman attacked by traumatic mastitis, to the Academie de Medicine for Medicin-majeur Hugut and the following history:

A blow from a horse's head contused the right nipple, after which this affection developed. It was treated at first by the application of antiseptic compresses, then by inunctions of "napolitan" (mercurial) ointment, and finally by scarification and cupping, followed by wadded compression.

The pains have disappeared after this treatment, and the patient could again make use of his right arm, but the corresponding breast—nipple—is still considerably hypertrophied. Deep palpation reveals the presence of an indurated mass which pushes downwards the healthy elements of the gland, and which accentuates upwards and outwards the prominence of the thoraco-mammary furrow.

In this case there is, then, a traumatic mastitis, which terminated by an indurated hypertrophy, which commonly takes place in these cases.—*G. s. Med. de Paris, 1895, No. 37, p. 441.*

H. P. W., *Tr.*

Hydatid Cyst of the Spleen—Removal—Recovery.

Hahn reports a very curious observation of a case of hydatid cyst of the spleen in a woman 35 years of age, who had eight children. Her previous health was good, until after her last labor, when a tumor developed in the left flank. The tumor, the size of an infant's head, was smooth, very mobile, and could be pushed upward under the ribs, downward into the inguinal region. It was fluctuating, painless, rounded; however, on palpation could be felt very vaguely that it terminated below by a sharp border.

Nothing wrong with heart or lungs; a marked emaciation and expression of poor health.

Celiotomy, and by pressure exercised from the lumbar region, the tumor could be easily brought

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outside of the wound. It was then noted that it was a cystic tumor of the spleen, developed on its concave surface and having caused a complete atrophy of the lienal (tissue) parenchyma. On account of the length of pedicle and absence of adhesions the hilum was sectioned and the pedicle replaced in the abdomen. The tumor was a hydatid cyst. The patient recovered without complications.

At the same time Hahn raised the question of treatment. Searching the literature he collected 70 cases of splenic hydatid cysts, of which 33 were treated either by puncture or by opening and draining of the collection, or by splenectomy. Comparing the results furnished by these interventions Hahn found that:

Puncture followed by injection of liquid is the intervention which succeeds least and gives the highest mortality—nine deaths in 22 cases, *i. e.*, mortality of 49 per cent. The results are already better with simple incision—two deaths in 15 cases. In six cases of splenectomy were four recoveries and two deaths. If we think, also, of four splenectomies for hæmatic cysts of the spleen have given four recoveries, we may conclude that splenectomy is still the operation of choice in hydatid cysts of the spleen.

As to the choice between incision and splenectomy in hydatid cyst of the spleen, Hahn thinks that the first, incision in one or two stages, ought to be made every time the tumor is surrounded by numerous inextricable adhesions. *Per contra* in tumors movable or easily mobilized splenectomy should be preferred to incision.—*La Trib. Med., 1895, No. 33, pp. 650-1.*

H. P. W., *Tr.*

Relapse of Infantile Paralysis.

Bucelli reports an observation in which there was a genuine relapse of infantile paralysis, *i. e.*, constituting a new attack, complete—including all the phases of the disease.

A child of twenty months had been suddenly taken with high fever, vomiting, contracture of the jaw, and a series of clonic and tonic attacks which lasted two days; on the third these phenomena ceased, but the mother noticed that the left leg was motionless and voluntary motions were weakened on the right. The child was brought to the Electrotherapeutic Institute of Genoa. Examination disclosed that the left inferior member hangs inert, that the leg is lightly flexed on the thigh, the foot in marked equino-varus. Reflexes abolished on both sides the faradic and galvanic excitability no longer exists in the antero-external muscles of the leg. There is evidently a spinal infantile paralysis.

The child, admitted to the hospital, is electrized for some time; the movements again became normal on the right and slightly improved on the left side, when suddenly a new attack supervened, analogous to the first but less severe, with high fever, convulsions, contracture of the jaw; following, and without any pain, flabby paralysis of both arms and the right markedly so. Electrical examination discloses a notable diminution of faradic and galvanic excitation, localized especially in the right deltoid. After a month of treatment the left member had recovered its movements, but the right, although improved, presented the signs of a partial reaction of degeneration.

The sudden onset, the fever, the phenomena of cortical irritation, the paralysis of both arms, of which one subsists with reaction of degeneration of the muscles, the absence of pain, really constitute the typical clinical picture of infantile paralysis, and demonstrate that there was incontestably a second attack of that affection.

This case is interesting by its rarity and by the localizations of the paralysis; we know, in fact, that most often the lesions are situated in the lumbar enlargement of the cord and that, consequently, the lower members are more often affected than are the upper members; in the present case, the lesion, classical from its first onset, has attacked the arm in the second, which was much less severe than in the preceding attack. Might there not be an immunization at once local and general and does this not speak in favor of the infectious origin of infantile paralysis?—*Gaz. d. Ospitali*, No. 90, 1895; *Le Bull. Med.*, 1895, page 825.

H. P. W., *Tr.*

Resection of the Sacrum for Cancer.

Kœrte reports two cases. The first was a woman, who some time, after falling on the buttocks, felt pain in the sacral region. On examination, made in the beginning of October, 1893,

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Kœrte found a tumor the size of a fist in the sacral region. The tumor was not adherent to the skin, but flattened the rectum without adhering to it.

Six days later Kœrte extirpated the tumor after disarticulating the coccyx and cut the levator ani. The tumor examined under the microscope was recognized as a soft myxo-sarcoma.

The patient recovered from the operation, to return a year later with a relapse in the cicatrix. Operation showed that the neoplasm relapsed was not in relation with the osseous cicatrix, and that the latter was covered by smooth, fibrous tissue.

In the second case operated on by Kœrte, and in which the patient attributed the development of a tumor to a traumatism three years previously, the sacrum was transformed into a soft tumor. In this case the operation consisted in *grattage* of the sacrum followed cauterization with the thermocautery. Relapse came on eighteen months after the operation, necessitaiing resection of the sacrum.—*L. c.*, *651*.

[In this connection it may be stated that the last echoes of *cancer-sero-therapy* from everybody are dying away, and few persons excepted the *sero-therapy* is pretty well demolished, dying almost as fast as born. Koch reports four cases of inoperable cancer, treated unsuccessfully by Coley's method, the effect was practically *nil*. While its originators and projectors fought bravely and hard, the cancer-serum injected according to their directions and as prepared by them gave but very little apparent benefit, while the harm done to the patient, by suppuration or intoxication or erysipelas, quickly became the signal for honest opposition. While here and there it may still have a defender, cancer-sero-therapy is at the present judged and relegated where it belongs. Like tuberculin, it appeared like a meteor in the sky, but unlike tuberculin its brilliancy was quickly dimmed and its cycle cut short.—R. I. P.—*Translator.*]

Blennorrhagic Suppurating Synovitis.

Jacobi and Goldmann (*Beitraege zur klinischen Chirurgie XII.*) report the observation of a man aged 37 years, of strong constitution, who complained of severe pain in the left foot. There was, in fact, a marked tumefaction of the accused foot, especially marked about the internal malleolus. This tumefaction was of considerable extent; it began four finger-breadths above the internal malleolus and continued along the plantar face of the foot to the tuberosity of the scaphoid. The tumefaction presented the classical symptoms of pain, redness and heat, and a deep fluctuation was felt.

The foot being in light plantar flexion and in supination, the movements impressed on the toes did not cause pain; it was really a localized affection of the tendon sheath of the posterior tibial.

The examination of the patient showed still a purulent liquid flowing from the urethra, containing gonococci. Hence the tumefaction responded to a tendinous synovitis of gonorrhœal origin.

The patient was operated; a yellowish pus, thready and mixed with blood, flowed from the incision. The tendon of the post. tib. did not appear altered. But its hyperæmic sheath had its internal face covered by tightly adherent yellowish white deposits. A portion of this sheath was examined microscopically, and the pus was bacteriologically analyzed. It contained gonococci only, without any other pyogenic microbe. Gonococci were also found, but less numerous, in the wall of the portion of the excised tendon-piece. Recovery normally.

This observation is interesting from many points of view. Blennorrhagic synovitis of the tendon-sheath of the post. tib. musc. is exceedingly rare. Rare also is the form of blennorrhagic synovitis. We know, in general, blennorrhagia causes but little suppuration in synovial tendon sheaths. The synovites it produces are generally serous or sero-fibrous. When suppuration *does* show, it is with a benign character. In fact, here may be noted the slow progress of the affection, its exact limitation to the tendon sheath prinitively invaded without propagation to the neighbor sheath of the common flexor of the toes. The tendon of the post. tibial itself showed no sign of necrosis, and yet it had bathed in the pus for a long time. This blenorrhagic suppuration synovitis, therefore, is characterized by its slight tendency for the destruction of tissues.—*Gaz. Med. de Paris, 1895, No. 35, pp. 413-4.*

H. P. W., *Tr.*

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Treatment of Furunculosis.

BY GOUDART.

The nature of the *terrain* seems to have a great influence in the development of furunculosis; if, most often, but a single boil is present, the patient never presenting any other similar appearance during its evolution, it is not rare, on the contrary, to see several boils co-exist, or follow each other in series, disseminated on various parts of the body, or agglomerated in a certain region, and constituting a more or less generalized furunculosis. To this individual predisposition is added infections of the vicinity by propagation of the staphylococcus in the tissues which surround the region of the first furuncle. These infections of the vicinity contribute, for a large part, to the multiplicity of morbid foci.

Aside of the local inconveniences due to pain and annoyance caused by the eruption, furunculosis frequently produces general disturbances, particularly in the digestive tract, and it is not very rare to observe complications which darken the prognosis of this apparently benign affection.

It is essential to institute a vigorous treatment at the earliest possible moment of the disease.

The treatment must be double, both internal and external, carried out at the same time.

I. 1. Internal Treatment. As only drink, the patient is given tar water.

2. The patient will take three capsules daily, one in the morning, one at noon and one in the evening, of:

℞ Sulphuris Sublim. o.10=gr. $\overline{iss}$.
Camphor. Pulv. o.02=gr. $\overline{ss}$.
M. ft. Capsule. No. I.

II. External treatment. The local treatment is applied directly to the furunculosis eruption. It varies according to the more or less advanced stage of the disease. Its object is to abort the boils in the beginning, either to evacuate the contents of the furuncle already formed, and to avoid, as much as possible, the propagation to the neighboring territory, even bringing on a more rapid cicatrization.

a. Furuncles in the beginning. As soon as a reddish point is seen to appear, or at the commencement of the pustule announcing the formation of a new boil, let the spot be covered with tr. iodin. Thus paint all the suspected points.

b. When the furuncle has already formed, its contents should be evacuated as thoroughly as possible. If the boil opened spontaneously, press out the contents carefully, enlarging the opening with bistoury, if necessary, in order to be able to empty it easily.

After having thus expressed the boil contents, introduce into the wound, with the assistance of a brush, the following paste:

℞ Sulphur sublim. 10 grammes
Camphor Pulv. 10 " } āā ʒ $\overline{iiss}$.
Glycerine q. s. M.

Besides, spread the paste over a cloth, with which the furunculosis region must be covered.

Finally, four times daily, carefully cleanse the infected region, and wash the boils, then spray the region for half an hour with phenicated water [sol. carbolic acid] 1:100; after each spraying renew the sulphur paste above mentioned.

This treatment of furunculosis generally produces relief rapidly. It immediately arrests the development and propagation of the affection.

Applied in time, when but a single boil has made its appearance, it has the great advantage, not only of bringing on a rapid recovery, but also preventing the development of furunculosis in persons predisposed to the disease.

It is, of course, understood that every treatment of furunculosis must be preceded by a careful and conscientious search for sugar in the urine. In diabetic cases the treatment will be modified according to the special indications furnished by that affection.—*Bull. Generale de Therapeutique, 1895, No. 30, pp. 119-121.*

H. P. W.

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Fatal Carbolic Intoxication Following Circumcision in an Infant.

The dangers of phenicated dressings, are well known at the present time, and the amputations of fingers necessitated by these dressings are no longer kept trace of. Although infants seem more susceptible than adults to carbolic acid, it is rare to see a simple phenicated dressing cause death, as in the case reported by Bogdanik.

A healthy child of ten days of age, well developed, "underwent" circumcision as commanded by the law of Moses, on the 19th of April last. The religious operator then made a dressing of

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cotton imbibed with a 5 per cent. carbolic solution. The next day the midwife, who was not present at the circumcision ceremony, renewed the dressings. She observed that the dressings were soiled by a blackish liquid; and that the infant's extremities were cyanosed, and so stated to the mother, without attaching any importance to it. On the 21st of April, at 5 o'clock in the morning, she was summoned because the child was entirely cyanosed. She replaced the carbolized dressings by vaseline and zinc oxide ointment, and had a physician called. The latter, seeing the darkened and greenish urine, suspected phenicacid intoxication, and gave the child wine and sodic sulphate; but the little patient succumbed a few hours later, after having shown a temperature of 40° C., clonic convulsions of the feet and hands and a little trisums.

The autopsy, made the following day, showed the child fully developed and at term, presenting no constitutional lesion. The whole venous system was gorged with blood, and under the visceral pleura were seen a large number of bloody suggilations. The kidneys presented no other lesions than venous congestion. The preputial wound was transformed into an eschar.

A similar case, also following a ritual-circumcision, has already been published several years ago by Meltzer.—*Wiener Med. Presse, No. 33; Le Bull. Med., 1895, p. 824.*

H. P. W., *Tr.*

Blenorrhagic Rheumatism in a New-Born.

At the Congress of Internal Medicine of Bordeaux, M. Haushatter, of Nancy, called attention to a case of blenorrhagic rheumatism observed during the course of a purulent gonococcic ophthalmia in a baby twenty-five days of age. The articular lesion was localized in the right knee and left wrist. But it predominated in the knee-joint, which was the seat of an abundant effusion of muddy liquid rich in polynucleated leucocytes. The gonococcus was very clearly shown by cultures. Similar facts have been cited by Lindermann and Deutschmann.

This case makes the eleventh in number of cases actually known of blenorrhagic rheumatism [arthritis?—Tr.] in the new-born. From a study of all these facts, we may conclude that there is no relation between the development of the arthropathy and the abundance of the ocular suppuration. Blenorrhagic rheumatism of the new-born is generally mono- or oligo-articular. The knee is almost constantly involved, and swells more than in the older infant or in the adult. The general condition is but little disturbed. There is no fever; the duration of the affection is about a month, and finally disappears without leaving a trace.—*Gaz. Med. de Paris, 1895, No. 35, p. 415.*

H. P. W., *Tr.*

Tryptic Digestion and the Internal Secretion of the Spleen.

A. Herzen (*Rev. Gen. des Sciences*) revives the theory as to the influence of the spleen on pancreatic digestion, which Schiff was the first to put forward in 1862. It has long been known that the digestive action of pancreatic juice on proteids is not continuous but intermittent, and that it appears regularly with the process of gastric digestion. Schiff showed that in animals from whom the spleen had been removed, neither the pancreatic juice nor an infusion of the pancreas had any digestive influence on proteids. Herzen has combined Schiff's views with Heidenhain's researches on zymogens. He finds that the volume of the spleen at any moment varies directly as the amount of trypsine in the pancreatic juice, and inversely as the amount of zymogen. Thus the maximum quantity of zymogen is present during starvation, when the trypsine and splenic dilatation are at their minimum. Six or seven hours after food the conditions are exactly reversed. Furthermore, admixture of infusion of congested spleen greatly aids the pancreatic digestion of proteids. The blood of the splenic vein has a similar action, that from other vessels none. Herzen concludes that in the living pancreas the protrypsine is transformed into active trypsine by the influence of a substance produced in the spleen in quantity proportional to the intensity of its congestion. The substance finds its way to the duodenum through the general circulation.—*Medical and Surgical Reporter.*

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The Roentgen Rays.

As evidence of the general preponderance of interest in matters pertaining to mere physical well being, which have a possibility of becoming personal, over political affairs, is adduced the excitement over the Roentgen rays. Boundary disputes have sunk into insignificance; Armenian horrors are lost sight of; the Kaiser and the Queen are left to settle their own family rows; the preparations for national conventions are forgotten, while the whole reading world is intense in its eagerness for something new on the subtle rays which reproduce, in distinct shadow, even the marrow of our bones.

Prof. Roentgen, a few weeks ago, was unknown, save to the ultra scientific, but now his name has become a household word, and his discoveries, by the sanguine, are expected to revolutionize some of the manufacturing arts as well as diagnostics. That the rays can be used in some forms of surgical diagnosis has been sufficiently demonstrated. Needles and bullets long embedded in the tissues, have been located, thus facilitating their prompt removal; pathologic condition of bone discovered, all sufficient to warrant some degree of the interest evinced and the hope of still greater things in the future.

Secondary to the discovery is the impetus given to investigations along the same lines by other scientists, thus warranting the belief that we can look forward to new revelations of more or less interest. Of course, we expect to hear from Edison, who is now perfecting an apparatus whereby he expects to shadowgraph the brain; while Dr. Carlton Simon, of New York, if newspapers can be relied on, has succeeded in illuminating his own brain by electricity, and securing a photograph of it. The experiments made with the Roentgen rays read like tales of magic, and truly the work of the ancient necromancers has been fairly outdone by this modern master of physical forces. Thick boards, card board, leather, aluminum, offer no resistance to these penetrating rays, give no concealment; neither does flesh and blood. The apparatus used consist of an egg-shaped glass tube, exhausted of air, and hermetically sealed, technically known as Crooke's tube. At either end enters the positive and negative poles of fused platinum wire, to the end of each being soldered a small aluminum disk. Both poles are connected with an induction coil, giving out high potential discharges. The result is a phosphorescence in the tube; the development of the X rays, which travel in straight lines, are essentially peculiar vibrations in luminous ether, are not disturbed by a magnet, and are not capable of refraction, thus insuring a non-distorted shadow. The object to be examined is placed between the tube and a sensitized photographic plate enclosed in a wooden case. The exposure is from a few minutes to an hour or more, according to the density or heaviness of the article. The result is the outline, in deep shadow, of the denser portions of the structure surrounded by the shadowy outlines of the whole, which can be developed as in ordinary photography.

Prof. Roentgen's discovery, like many others, was led up to, in a measure, by the work of predecessors. Some years ago, Prof. Heriz

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showed that the phosphorescence produced by passing currents through a vacuum in glass tubes would penetrate a thin plate of metal, and, in 1893, Dr. Lenard, showed that the rays could be passed through a thin leaf of aluminum. While experimenting along these lines, Prof. Roentgen made his discovery.

Wilhelm Conrad Roentgen is of Dutch birth, receiving his preliminary scientific training at Zurich. Later he went to Würzburg, and thence to Strassburg University. He has held various chairs in academies and universities, but has been permanently at Würzburg since 1888. His work has been fruitful in the elucidation of many problems of physics, especially in relation to acoustics, atmospheric disturbances, and electricity. What the future of his discovery in relation to its application will be is hard to say. It, no doubt, is a step in the progress which brings us to a more perfect knowledge of the forces pervading nature.

News and Miscellany.

DR. KEMPSTER is reinstated health officer.

***

SMALL-POX has appeared in Waukesha County, giving rise to some uneasiness.

***

THE simultaneous appearance of small-pox in the near neighborhood with the reinstatement of Dr. Kempster brought up unpleasant reminiscences in the minds of some, and fears for the future. Fears, however, we be believe to be without foundation, for it is not likely that, after the bitter experience of two years ago, like brash methods would be instituted, and certainly not tolerated.

We believe in the good of an isolation hospital, but we do not believe in compelling people to go there when strict quarantine, as far as the community is concerned, is equally, if not more, efficacious. Our epidemic was soon gotten under control as soon as individuals were left a choice in the matter. Before that, concealment was the order of the day; physicians were only called in as a last resort, and long after the disease had been spread broadcast.

DIPHTHERIA, while not so prevalent as other years, has been slightly on the increase. We have no data whereby we can compare the mortality under the old and new treatments. Personally, we have had flattering success in the few cases coming under our observation, with the anti-toxin treatment. We have not used it except in cases of a severe type, and have been greatly pleased at the prompt beneficial effects.

***

WE are pained to learn of the affliction of our former friend and classmate, Dr. Boorse, whose estimable wife died Saturday, the 15th inst., leaving him with one child. He has our heartfelt sympathy.

***

THERE has been an unusual number of deaths among physicians and their families during the past twelve months. Death comes an "unbidden guest" to many a happy home, and we are powerless to eject him.

***

THE doctors at the county institutions are all doing good work, and are correspondingly happy.

***

DRS. BUSCHMANN AND LUEDERS have settled in the territory vacated by Dr. Stewart. There certainly is no dearth of doctors in the city.

***

As commencement time draws near, many an anxious young man will be on the look-out for a location.

***

WE received a number of papers from Dr. Zeit, of the Northwestern Medical Association, some of which we publish in this issue. We feel very grateful to the doctor.

***

MILWAUKEE MEDICAL COLLEGE has ordered Crookes' tubes.

***

TRINITY HOSPITAL has had its capacity tested all winter. There has been an unusual number of serious surgical cases.

***

WE understand the hospitals of the city have all been well filled during the winter. The city grows and is becoming more and more of a medical center.

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Book Review.

Books.

P. BLAKISTON, SON & CO. "Appendicitis." By John B. Deaver, M. D., Assistant Professor of Applied Anatomy, University of Pennsylvania; Assistant Surgeon to the German Hospital, etc. The book will be arranged in a practical and systematic manner. The History, Etiology, Symptoms, Diagnosis, Operative Treatment, Prognosis, and Complications of this disease will be given in the order named. It will contain about forty illustrations of methods of procedure in operating, and typical pathological conditions of the Appendix, the latter being printed in colors.

WHAT to Do in Case of Accident. A neatly gotten up book of 62 pages of advice we all can profit by at any time. By B. Merrill Ricketts, Ph. B., M. D., Cincinnati, O.

Reprints.

CHRONIC Seminal Vesiculitis, with Hemorrhage. By Dr. S. P. Collins, Hot Springs, Ark.

PRACTICAL Urethroscopy. By. H. R. Wossildo, M. D., Berlin, Germany.

URETHROSCOPY in Chronic Urethritis. By Fred C. Valentine, M. D., New York.

HYSTERIC Blindness and Pseudo-Meningitis, with Report of Cases Treated by Hypnotism. By Hugh T. Patrick, Chicago.

SLEEP in its Relation to Diseases of the Skin. By S. Dunkin Bulkley, A. M., M. D., New York.

CLIMATE and Health. Number Three. By Prof. Willis S. Moore, Chief of Weather Bureau, U. S. Department of Agriculture.

ADVANCE Sheets from Report of U. S. Commissioner of Education.

MODERN Surgery of Serous Cavities. By Merrill Ricketts, M. D., Cincinnati, O.

DIRECT Fixations in Fractures. By B. Merrell Ricketts, M. D., Cincinnati, O.

FIFTY Cases of Rectal Surgery. By B. Merrill Ricketts, M. D., Cincinnati, O.

DISLOCATED and Double Fracture of the Upper Third of Humerus. By Merril B. Ricketts, M. D., Cincinnati, O.

Publishers' Column.

Neurosine.

The most powerful Neurotic attainable, Anodyne and Hypnotic. A reliable and trustworthy remedy for the rellef of Hysteria, Epilepsy, Neurasthenia, Mania, Chorea, Uterine Congestion, Migraine, Neuralgia, and all convulsive and Reflex Neuroses. The Remedy par excellence in Restlessness of Fevers, Producing Natural Sleep. Composition, Chemically pure Bromides of Potassium, Sodium and Ammonium, Zinc, Extract Belladonna, Cannabis Indica and Cascara Sagrada with Aromatic Elixirs. The medicinal effects of which the profession are well acquainted.

The Decadence of Opium.

Wendell Reber, A. M., M. D., Pottsville, Pa., Oculist and Aurist to the Children's Home, under the above caption, in the *Buffalo Medical Journal*, writes: "We would not banish opium. Far from it. There are times when it becomes our refuge. But we would restrict it to its proper sphere.

"In the acute stage of most inflammations, and in the closing painful phases of some few chronic disorders, opium, in galenic or alkaloidal derivatives, is our grandest remedy—our confidential friend. But here the application should cease; and it is just here that the synthetic products step in to claim their share in the domain of therapy.

"Among the latter, perhaps none has met with so grateful a reception as antikamnia, and justly so; for among all the contributions of pharmaceutic chemistry, none so fully merits our confidence as this one.

"Given a frontal-temporal-vertical or occipital neuralgia growing out of an uncorrected ocular defect, it will almost invariably arrest the head pain, until such time as the ocular trouble can be corrected with glasses. In the terrific frontoparietal neuralgia of glaucoma, or in rheumatic or post-operative iritis, it is of signal service, contributing much to the comfort of the patient; and, I have sometimes thought, exerting an undeniable influence over the ocular disease. In this last group of cases I have seen the most benign effects follow the hourly administration of ten grs. of antikamnia until the pain is relieved. It will seldom be necessary to exceed sixty grains of the drug.

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"Its range of application is wide. It is of positive value in certain forms of dysmenorrhœa; it has served me well in the pleuritic pains of advancing pneumonia, and in the arthralgias of acute rheumatism; on several occasions, I have been able to allay with it the lightning, lancinating pains of locomotor ataxia; but nowhere do I employ it with such confidence as in the neuralgias, limited to the area of distribution of the fifth nerve. Here its action is almost specific; surpassing even the effect of aconite over this nerve."

In the advertisement, in this issue, of Theodore Metcalf Co., of Boston, there will be found an offer that is exceedingly liberal, any one of our readers should avail themselves of. It is not often that $15 is exchanged for $5.

Selections.

Are Acquired Characters Transmitted to Offspring?

BY R. NUNN, M. D., PORTLAND, ORE.

Professor of Anatomy, Medical Department of the University of Oregon.

Read before the Portland Medical Society, Oct. 2, 1895.

Mr. President and Members of the Portland Medical Society:

The excuse I have to offer for reading a paper whose subject is somewhat outside the evident interpretation of the word medicine is two-fold: First, papers read by oculists are, as a rule, crowded with technical terms and symbols, and to one who does not daily deal with these, so as to have a quick and adequate idea of their meaning, the subject of the paper is but half understood. Second, as I hope I shall show you the subject which I have chosen must be of interest to every one, and who are more capable of criticizing any questions of heredity than the medical profession, whose education makes them capable of observation and whose profession gives them every opportunity for such observation, at least so far as the human species is concerned? An extract that I shall read from that remarkable work of Benjamin Kidd, now in its fourteenth edition and translated into every civilized language on the face of the globe, will show you that a great many of our moral and social views must depend upon whether this question of heredity is answered in the affirmative or negative.

This is at present a burning question amongst evolutionists; it remains still unanswered, sometimes the affirmative having the best of it, and at other times the negative.

Without going too far back we may say that Lamarck, in 1800, was the first to bring the light of modern science to bear on the question, and science as it existed in those days, answered it in an uncompromising affirmative. Darwin, later, partly accepted the theory of Lamarck; since his time the war has waged fiercely, now on one side, now on the other. At present the two champions may be taken as Herbert Spencer, leading the affirmative, and A. Weisman, of the University of Frieburg, accepting a very much modified negative answer to the proposition.

Between the years 1882 and 1888 Professor August Weisman has been putting forth new ideas on biology in the form of public lectures at the University of Frieburg. They have been lately collected and translated and edited in book form and contain, amongst other interesting matter, some new views on the question of heredity.

In the *Contemporary Review* for February, March and May, 1893, these views there met with answers from Herbert Spencer. Many of them would not hold water, if we are to accept as true his views on the same subject, as exposed in his magnificent work of "Synthetic Philosophy." This is about how the question now stands.

Within the last few years a decided leaning toward Weisman has taken place, if we may judge by the very latest philosophical ideas as exposed by Kidd, Balfour and others.

Why do persons, in many cases, who have contracted specific disease produce offspring bearing unmistakable signs that the sins of the father have been visited to the second generation? Putting aside all questions of similarity of environment, there is a strong tendency to look upon alcoholism as having at least an important hereditary element; this is Lombroso's view. Gout and that vague combination of phenomena coming under the term scrofula come under the same head; also some forms of insanity; other examples could no doubt be given. But who ever heard of a man or woman who in early life had lost an eye producing cyclopean offspring? No rational scientific man gives any credence to maternal impressions.

Weisman made experiments by cutting off the tails of seven female and five male white mice; these were allowed to propagate in some cases to the fifth generation, including 907 individuals; but not only was there no tailless mouse, but no one mouse had its tail shorter than the average

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length of the tail of unmutilated mice. Mutilations have been practiced amongst certain races for periods of time beyond the history of the people so practicing them. Examples: The restriction of the growth of the foot amongst the upper class of Chinese women, the rite of circumcision amongst the Hebrews, the insertion of large foreign bodies in the cartilages of the nose in the Tamil tribes of Ceylon, a similar practice amongst many tribes in Central Africa, with regard to the cartilage of the ear. Yet in all these cases the young are born with normal organs.

A still more striking example, and one where the will of man has no influence, is to be seen in the difference between the beaks of full grown crows and rooks; the former have around the nostrils and eyes many stiff bristles, lacking in the latter, yet the young of both are so furnished, but in the case of the rook, which is a ground feeder, they are rubbed off.

In attempting to reconcile these two apparently contradictory groups of phenomena, the views of Weisman are of the greatest service.

Heredity (of which the transmission of acquired characters may be regarded as a part) means that property of an organism by which its peculiar nature is transmitted to its descendants. From an eagle's egg an eagle of the same specie is developed, and not only are the characteristics of the species transmitted to the following generation, but even individual peculiarities. Offspring resemble their parents among animals as well as among men. Paget says: "The highest laws of our science are expressed in the simplest terms in the lives of the lowest orders of creation; for example, the structure and function of the human brain presents many and extremely complicated anatomical and physiological problems, to connect the millions of nerve cells with the millions of nerve fibers and to assign functions to each is a seemingly hapless task, but already a good deal has been done in this line, and the work has been most materially assisted by a simultaneous investigation of the structure and function of the nervous system in the lower forms of life, in the polyps and jelly fish, worms and crustacea. So in order to get an insight into this excessively complicated problem let us seek it in the lives of the lowest animals, rhizopods and infusoria, at the threshold of animal life existing in its most simple form."

Haeckel struck the keynote when he described reproduction as "an overgrowth of the individual." And such it is, for monoplastids increase by fission; each individual grows to a certain size and then divides into two parts, alike in size and structure, so that it is impossible to say whether one of them is younger or older than the other. Hence, in a certain sense these structures are immortal; they can, it is true, be destroyed, but if protected from accidental death would live on forever, reducing from time to time the size of their overgrown bodies by division, but each individual monoplastid living on earth to-day is far older than mankind and is almost as old as life itself. When it is borne in mind that you and I, like all living organisms, were at one time a monoplastid, the importance of the foregoing statement as to their possessing virtual immortality will be appreciated. From these unicellular organisms we can, to a certain extent, understand why the offspring, being, in fact, part of its parent, must resemble the latter. The question why the part should resemble the whole lies hidden in another problem awaiting solution, namely, assimilation. Among unicellular organisms at any rate hereditary depends upon the continuity of the individual during the continual increase of its body by means of assimilation.

But how is it with polyplastids who do not reproduce by fission, in which the whole body of the parent does not pass over into its offspring? Such animals reproduce for the most part sexually. In these animals reproduction is connected with certain cells which, as germ cells, may be contrasted with those which form the rest of the body or somatic cells. They are without significance for the life of the individual, that is for the preservation of its life, yet they alone possess the power of preserving the species; each of them can, under certain conditions, develop into a complete organism of the same species as the parent, with every individual peculiarity of the latter reproduced more or less completely. How can such a reproductive cell reproduce the whole body in all its details?

Such a question could be answered if we were only concerned with the continuity of the substance of the reproductive cells from one generation to another; this can be seen in some cases, and very probably in all. In certain insects the segmentation of the egg begins with the separation of a few small cells from the main body; these are the reproductive cells, and at a later period are taken into the interior of the animal and form its reproductive organs; this separation takes place later, as the forms of life become more de-

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veloped, until in the vertebrate they do not become dis inct until the embryo is formed. A marked antithesis exists between the substance of the undying germ cells and the perishable somatic cells. This fact may be explained by the supposition that each reproductive cell contains potentially two kinds of substance which at a variable time after commencement of embryonic development, separate from one another, producing two sharply contrasted groups of cells.

It would thus seem that the reproduction of multicellular organisms is essentially similar to the corresponding process in unicellular forms; for it consists in the continual division of the reproductive cell, the only difference being that in the former case the reproductive cell does not form the whole individual, for the latter is composed of millions of somatic cells which surround the reproductive cell. The question, then, is not so much "How can a single reproductive cell contain the germs of a complete and highly complex individual?" as "How can the substance of reproductive cells potentially contain the somatic substance with all its characteristic properties?"

This problem becomes clearer if we can first see how multicellular animals arose out of unicellular; the answer undoubtedly lies in the physiological principle of division of labor. Somewhere, and at some time in the course of the phyletic development of the organized world, it happened that certain unicellular organisms did not separate from one another immediately after division, but lived together, each retaining all the animal functions, including that of reproduction. The magosphæra planula of Haeckel shows that such a colony can exist. Division of labor would produce a differentiation of its cells; some would be set apart for the obtaining of food, others for locomotion, while certain others would be exclusively reproductive cells. In this way colonies of somatic and reproductive cells must have arisen, and here for the first time death appears in the organic world; for in every case the somatic cells must have perished after a certain time, whilst the reproductive cell retains the immortality derived from the protozoa.

But how is it possible for one kind of cell in such a colony to produce the other by division? How can the cells, after the nature of one part of the colony is changed, have undergone such changes in their nature that they can now produce more than one kind of cell? Two theories are brought forward to explain this:

1. The old nisus formativus or its modern equivalent, phyletic force of development, is unscientific and throws no light in the numerous adaptations seen in originals.

2. The theory of pangenesis provisionally adopted by Darwin at first sight is reasonable, but on closer investigation presents immense difficulties which need not here be referred to.

Weisman's solution of the question is something this wise. He says, "I believe that an explanation can in this case be reached by an appeal to known forces if we suppose that characters acquired by the parent cannot appear in the course of the development of the offspring, but that all the characters exhibited by the latter are due to primary changes in the germ." He adopts Pfluger's definition of an acquired character as "characters which are not due to the peculiar organization of the ovum and spermatozoon, from which the individual is formed, but which follow from the incidence of accidental external influences upon the organism at any time of life."

This supposition can clearly be made as regards the above-mentioned colony with its elements differentiated into somatic and reproductive cells. It is conceivable that the differentiation of somatic cells was not primarily caused by a change in their structure, but that it was prepared by changes in the molecular structure of the reproductive cell from which the colony rose. Changes in the external conditions can, in connection with natural selection, call forth persistent changes in an organism. Supposing the colony, at first formed of similar cells, were to gain some advantage, if, in the course of development, the molecules of the reproductive cells, from which each colony arose became irregularly distributed in the resulting organism, there would be a tendency toward the perpetuation of such a beneficial change whereever it appeared as the result of individual variability. As a result of this change the colony would no longer remain homogeneous, and its cells would become dissimilar from the first, because of the altered arrangement of the molecules in the reproductive cells. If, then, the reproductive cells have undergone such changes that they can reproduce a heterogenous colony as the result of continual division, succeeding generations must behave in exactly the same manner, for each of them is developed from a portion of the reproductive cell from which the previous generation arose and consists of the same reproductive substance as the latter. The exact manner in which

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we imagine the subsequent differentiation of the colony to be potentially present in the reproductive cell becomes a matter of small importance; it is perhaps explained by a difference of molecular arrangement or some change in chemical constitution, or perhaps both. The essential point is that the differentiation was originally due to some change in the reproductive cells, just as this change itself produces all the differentiations which appear in the ontogeny of all species of the present day. No one doubts that the reason why this or that form of segmentation takes place, or why this or that species finally appears is to be found in the ultimate structure of the reproductive cells.

The first segmentation divides the egg into an opaque and clear layer corresponding to the ectoderm and entoderm, which are formed at a later period. These differentiations are only the visible proofs of highly complex molecular arrangements in the cells, and facts appear to indicate that we cannot be far wrong in maintaining that differentiations which appear in the course of ontogeny depend upon the chemical and physical constitution of the molecules in the reproductive cells.

At the first appearance of the metazoa, above alluded to, only two kinds of cells arose, somatic and reproductive, from the segmentation of the reproductive cells. The reproductive cells thus formed must have had exactly the same molecular structure as the mother cell and would therefore pass through precisely the same developmental changes. All succeeding changes in metazoa have been due to the same causes which were efficient at the beginning. Variations in the molecular structure of the reproductive cells would continue to appear and these would be continued and be increased and rendered permanent by natural selection, when their results in the alteration of certain somatic cells were advantageous to the species. The only condition necessary for the transmission of such changes is that a part of the germ plasm, the substance of the reproductive cell, should always remain unchanged during segmentation, or, in other words, that such unchanged substance should pass into the organism, and after a lapse of a variable period appear as reproductive cells; only thus can we imagine the way in which the changes which occur in the progeny of the species have been transmitted, only thus can we imagine the way in which the first somatic cells gradually developed in numbers and complexity.

It is only by supposing that these changes arose from molecular alterations in the reproductive cells that we can understand how the reproductive cells of the next generation can originate the same changes in the cells which are developed from them; and it is impossible to imagine any way in which transmission of change produced by the direct action of external forces upon the somatic cells can be brought about.

The difficulty or the impossibility of rendering the transmission of acquired characters intelligibly by an appeal to any known force has been often felt, hence a nisus formation or a theory of pangenesis has been conjured up, but no one has hitherto attempted to cast doubts upon the very existence of such a form of heredity.

There are, says Weisman, two reasons for this: first, observations have been recorded which appear to prove the existence of such transmission; second, it has seemed impossible to do without the supposition of the transmission of acquired characters because it has always played such an important part in the explanation of the transformation of species.

Inheritance of acquired characters has never been proved, either by means of direct observation or experiment, and until it has been so proved we must say, with Du Bois Reymond, "The hereditary transmission of acquired characters remains an unintelligible hypothesis which is only deduced from the fact which it attempts to explain." Therefore it may be asked if the hypothesis is really necessary for the explanation of known facts.

Natural selection would seem to be a sufficient explanation of the facts that certain animals have certain muscles, bones, nerves, glands, etc., more highly developed, or the reverse, and though use and disuse may have a certain influence, it surely was exaggerated by Lamarck and his school who thus explained the origin of species. The perfection of an organ does not depend on the amount of exercise undergone by it during the life of the organism, but primarily and principally upon the fact that the germ from which the individual arose was predisposed to produce a perfect organ; natural selection tends to destroy those that have the germs less disposed; no amount of feeding or exercise will make a dwarf into a giant.

The same arguments may be used in the case of degeneration by disease. The embryos of snakes still have limb girdles; many generations of fish living in land caverns still have eye stalks, *i. e.*, nerves, if the eyes have disappeared. Section of the optic nerve produces marked degeneration of the eye in one individual; the same holds good

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with the olfactory nerve in dogs; if the effects of disuse are so striking in the lifetime of one individual, we should certainly expect, if the effects can be transmitted, that all traces of an eye would disappear from species that have lived in the dark for untold generations.

It is usually considered that instincts are dependent upon the exercise of certain groups of muscles and nerves during a single lifetime, and that the gradual improvement which is thus caused by practice is accumulated by hereditary transmission; here again natural selection, acting on variations of the germ, will explain the phenomena. The queen bee makes but one nuptial fight in her life; many insects go through a most complicated process of depositing eggs but once in their lives. How can practice have had any influence upon the origin of such instincts and reflex mechanisms? The same argument holds good in those insects which place protective cocoons around the pupæ; the emperor moth spins a cocoon so tough that the moth could not break it through when ready to emerge, and would die in it were it not that it leaves a hole at the end guarded by bristles pointing outward like a lobster pot, easy for the moth to escape but difficult for an enemy to enter, and this it does but once in a lifetime.

In man the case is more complicated, for in addition to instincts inherent in everyone, special individual predispositions are also found of such a nature that it is impossible that they can have arisen by individual variations of the germ. On the other hand, these predispositions, which are called talents, cannot have arisen through natural selection, because life is in no way dependent upon their presence, and there seems to be no other way of explaining their origin except by the assumption of the summation of the skill attained by exercise in the course of a single life. In this case, therefore, we seem at first sight to be compelled to accept the transmission of acquired characters.

All predispositions may be improved by practice during a life, some very remarkably so. If we could explain the existence of a great talent, such as, for example, a gift for music, as due to the presence or absence of a special organ in the brain, it follows that we could only understand its original increase (natural selection being excluded) by accumulation, due to the transmission of the results of practice through a series of generations. But talents are not so dependent; they depend upon a certain degree of irritability and a power of readily transmitting impulses along the nerve tracts of the brain, as well as upon special development of single parts of the brain. There is no proof that talents have been improved by their exercise through the course of a long series of generations. The Bach family shows that musical talent, and the Bernoulli family that mathematical power can be transmitted from generation to generation; but in both families the high-water mark of talent lies not at the end, as it should do if the results of practice were transmitted, but in the middle. Talents often appear in some individual of a family not previously distinguished.

Gauss was not the son of a mathematician; Handel's father, whose musical talent is unrecorded, was a surgeon; Titian was the son of a lawyer. This does not prove that the condition of nerve tracts and centers which determine the specific talent, appeared for the first time in these men; the proper condition surely existed previously in their family, although it did not achieve expression. But they do prove that talent cannot have arisen from the experience of previous generations, that is by the exercise of the brain in the same specific direction. The combination of talents frequently found in one individual, and the appearance of different remarkable talents in various branches of one and the same family, indicate that talents are only special combinations of certain highly developed mental dispositions which are found in every brain. Many painters have been admirable musicians, and we frequently find both these talents developed to a slighter degree in a single individual. In the Feuerbach family we find a distinguished jurist, and among the Mendelssohns a philosopher as well as a musician.

The sudden and yet widespread appearance of a particular talent in correspondence with the general intellectual excitement of a certain epoch points in the same direction. How many poets arose in Germany during the period of sentiment which marked the close of the last century; how completely all poetic gifts seem to have disappeared during the "Thirty Years' War;" how numerous were the philosophers that appeared in the epoch which succeeded Kant?

Lessing has asked whether Raphael would have been a less distinguished artist had he been born without hands; it might also be asked whether he might not have been as great a musician as he was painter if, instead of living during the historical

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high-water mark of painting, he had lived, under favorable personal influences, at the time of highly developed and widespread musical genius? A great artist is always a great man, and if he finds the outlet for his talent closed on one side he forces his way through on the other. From all this it may be shown that talents do not appear to depend upon the improvement of any special mental quality by continued practice, but they are the expression, and, to a certain extent, the by-product, of the human mind, which is so highly developed in all directions.

But if it is asked whether this high mental development, acquired in the course of innumerable generations of man, is not dependent upon the hereditary effects of use, it must be borne in mind that human intelligence in general is the chief weapon which has served the human species in the struggle for existence. Here, again, we encounter the effects of natural selection, and to this must be attributed, at any rate, a great part of the phenomena we have been discussing, and it cannot be shown that, in addition to its operation, the transmission of characters acquired by practice plays any part in nature.

There is only one class of changes in the organism which is with difficulty explained by the supposition of changes in the germ; these are modifications which appear as the direct consequence of some alteration in the surroundings—such, for example, as are produced by strange climate; these have always been looked at under the supposition that they are transmitted and intensified from generation to generation, and for this reason the observations are not always sufficiently precise. It is difficult to say whether the changed climate may not have first changed the germ, and if this were the case the accumulation of effects through the action of heredity would present no difficulty. For instance, it is well known that increated nourishment not only causes a plant to grow more luxuriantly, but it alters the plant in some distinct way, and it would be wonderful if the seeds were not also larger and better furnished with nutritive material. If the increased nourishment be repeated in the next generation a still further increase in the size of the seed, in luxuriance of the plant, and in all the other changes which ensue, is at any rate conceivable, if it is not a necessity. But this would not be an existence of the transmission of acquired characters, but only the consequence of a direct influence upon the germ cells, and of better nourishment during growth.

A similar interpretation explains the converse change. When horses of normal size are introduced into the Falkland Islands, the next generation is smaller in consequence of poor nourishment and damp climate; deteriorated to a marked extent. In such a case it is only necessary to assume that the climate, which is unfavorable, and the nutriment, which is insufficient for horses, affects not only the animal as a whole, but also its germ cells. This would result in the diminution in size of the germ cells, the effects upon the offspring being still further intensified by the insufficient nourishment supplied during growth. But such results would not depend upon the transmission by the germ cells of certain peculiarities due to the unfavorable climate, which only appear in the full-grown horse.

If the question be asked, in what lies the cause of this variability on which natural selection operates, the answer must undoubtedly be that it lies in the germ cells. From the moment when the phenomena which preceded segmentation commence in the egg, the exact kind of organism which will be developed is already determined, whether it will be larger or smaller, more like its father or mother, which of its parts will resemble the one and which the other, even to the minutest detail.

There remains a certain scope for the influence of external conditions upon the organism; but the scope is limited, and forms but a small area around the fixed central point which is determined by heredity. Unhealthful sedentary habits make the factory hand pale; life on board ship, plenty of exercise and sea air, give the sailor a strong body; but when once the resemblance to father or mother, or to both, is once established in the germ cell it can never be effaced, let the habit of life be what it will.

The germ cells are continued in the organism, and the external influences which affect them are intimately connected with the state of the organism in which they lie hid. If it be well nourished, the germ cells will have abundant nutriment, and conversely, if it be weak and sickly, the germ cells will be arrested in their growth. It is even possible that the effects of these influences may be more specialized; that is to say, they may act only upon certain parts of the germ cells. But this is, indeed, very different from believing that the changes of the organism which result from ex-

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ternal stimuli can be transmitted to the germ cells and will develop in the next generation at the same time as that at which they arose in the parent, and in the same part of the organism.

To sum up, then, according to Weisman, it would appear: That acquired characters are not hereditary; that the principle of heredity must lie in the continuity of the germ plasm, and that natural selection, acting on variations in the molecular structure of the germ cells, is capable of explaining all the phenomena included under the words origin of species.—*Medical Sentinel.*

Seventeen Cases of Chronic (Relapsing) Appendicitis Treated by Operation.

By Hunter McGuire, M. D., LL. D., Richmond, Va.

Ex-President and Honorary Fellow of Medical Society of Virginia; Professor of Clinical Surgery in the University College of Medicine, etc.

Read before the Medical Society of Virginia, September, 1895.

It will be seen that ten of the cases reported were females, and seven males. Sixteen were private cases, and one operated on in the amphitheatre of the University College of Medicine; fifteen cases were operated on in St. Luke's Home (my private hospital), and one was operated on in a private house; this last was the fatal case, and the only fatal case of operation for chronic appendicitis that I have had.*

The series of cases embraced operations performed in the interval between the attacks, when all, or nearly all, of the inflammatory symptoms had disappeared—operations done during the quiescent stage, as was originally suggested some years ago by Mr. Frederick Treves. In the series there is not included any case of acute or other form of appendicitis.

You may have seen from the report of my cases that I am not always in a great hurry to operate, but that I am inclined to wait for the more acute symptoms to wear off, and operate, if at all, after suppuration has taken place, or during the quiescent stage, between the attacks.

There are some cases of *appendicitis so slight* that I am satisfied they belong to the doctor and not to the surgeon; very often they are not recognized by the practitioner as appendicular trouble, but put down as bilious colic, localized peritonitis, kidney colic, etc. Under rest, purgation, hot applications, rigid diet, leeches and the very moderate use of opium, these cases recover, and, in very many instances, stay well. In some of these cases, if, after the attack, you could look at the appendix and structures around it, you would see evidences of inflammation in the shape of slight thickening, induration and adhesions. If you will examine subjects in any large dissecting-room you will find frequent specimens of this kind. These slight cases of appendicular trouble are not cases for operation. A man's usefulness is not impaired, nor is his life usually shortened by it; indeed, he often gets on through life better than the man with a crippled leg, or the poor fellow who lives for years with a crippled heart. I wish my voice was strong enough, just here, to call a halt to the men who say that, in all cases of appendicitis, you must operate. They say, "Operate at once, not this afternoon or to-morrow, but now," in all cases where the disease is recognized.

There are cases, however, when the disease, instead of abating, grows worse, the temperature gets higher, the pulse more rapid, the lump in the iliac region is larger, the belly is more tender, and possibly a rigor comes on. A slight pitting œdema in the skin over the region of the appendix is sometimes seen. The fluctuation tells us that pus has formed, and the whole aspect of the case is changed. I know I subject myself to severe criticism when I say that, even now, I am not in all cases in a hurry to operate. Possibly the disease has been going on for some days, as is often the case, before the consulting surgeon is called; the symptoms are not so urgent, fluctuation not very distinct, and the barrier of lymph containing the pus is probably strong. I am not in a hurry to operate, because a certain proportion of these cases may get well without it. Recovery is not always impossible, even after some matter is supposed to be present, or is actually there. Years ago, when I knew less about this subject than I do now, I have punctured the *abscess about the appendix* with the needle of an aspirator, and pumped out some of the pus, and afterwards saw the man get well and stay well. One case was that of a Presbyterian preacher, in Richmond, whose appendical abscess I aspirated several times. He is well, and at work now. I don't pretend that this is good surgery, or that I would resort to it at this time; I introduce the fact now to show that recovery may take place after matter has formed. I have seen more than one instance of this, and I have even thought that the violent inflammation

*I have operated on three other cases of chronic appendicitis, but the records of these cases are too imperfect to justify reporting them. These three cases recovered.

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rendered the patient free from a second attack. This is certainly not impossible. If a large number of cases of appendicitis are examined, it will be found that a large majority of these cases never have a second attack. It is true that delay in operating may end in the barrier being undone, and purulent irruption into the peritoneal cavity ensue. I have never seen this occur after the third day. I have, however, seen matter burrow down towards the pelvis and bladder, and upward towards the liver. Sometimes, when you operate and open this abscess, you will find it attached to the parietal peritoneum; if so, the operation is simply opening an abscess. Make the opening large enough to introduce your finger, gently search for the appendix, and if you can find it or fæcal concretions, remove them. If the appendix is fastened by adhesions, let it alone. Drain the abscess cavity with a rubber tube and gauze. If you find the abscess not attached to the parietal peritoneum, I would treat the case, if practicable, as I describe in Case XI.

In *acute perforating appendicitis*, I would operate at once. In such cases you cannot operate too soon. You frequently have very violent infection and inflammation, producing gangrene and sloughing of the appendix. The peritoneum is speedily involved, and diffuse septic peritonitis quickly comes on. Very often, in these cases, as soon as the peritoneum is opened there escapes a milky fluid thinner than pus, and it is always most imperfectly, if at all, confined by fibrin. These are the frightful cases, and an early operation alone gives a chance for life. It is these cases of acute perforating appendicitis that have induced many surgeons in this country to urge immediate operation in *every case* of appendicitis. I cannot subscribe to this doctrine. I have seen too many of the other kind of cases get well without an operation. But when we have a case where the symptoms are ushered in with great rapidity, when the pain is atrocious and the temperature high, the pulse rapid, 110 to 120, when vomiting is persistent, and constipation insuperable; when the belly is tender, and the right iliac region hard; and above all when the patient's face indicates mortal illness, when he looks indeed like a man shot with a bullet through the belly, you may know that perforation with acute septic peritonitis is imminent, or has already taken place. Operate at once, for delay is fatal. Remove the appendix, wash out the belly with warm, normal salt solution—wash it out over and over again, and then drain with strips of iodoform gauze or tubes, or both. Papers of McBurney, Bull and others show the value of this. Good washing and free drainage gives the only chance for life. These cases are what may be called *fulminating appendicitis*, or general septic peritoneal infection, and run their course quickly. The whole tale is told usually in forty-eight hours.

I have gone over, in a very brief and imperfect way, three forms of appendicitis, to distinguish them from the variety presented in my paper, to-day. The cases reported are known as *relapsing*, or *recurrent*, or *chronic appendicitis*, the last name, to my mind, being the most appropriate.

An individual may have an attack of appendicitis more or less severe, and the symptoms may gradually subside and disappear, and it is very possible he may never have a second attack; but if the first seizure is at all severe, it may happen that the appendix and parts around it are never entirely restored to their original condition; and at variable intervals of time, the attack will recur with greater or less violence. No one can foretell, from the history of the first attack, what the nature of the next attack will be, or when it will occur. I have seen three years intervene between the first and second seizure, and then a savage attack ensue. Dr. George W. Gay, of Boston, who has written a clever article on this subject, reports an interval in his own case of seventeen years between the first and second attack. But the pathological changes caused by the first attack may disappear and a second seizure never come on, and a patient is entitled to that chance, if he so decide. But if the attacks are repeated, and especially if the intervals between are becoming shorter, and the attacks more violent, then the appendix should be removed. The next attack may be fatal, or at least the man becomes a hopeless invalid.

Ever since Escherich discovered the microbe, which he called bacillus coli communis, it has been almost conclusively demonstrated that this bacillus is the genesis of a certain number of maladies, and chief among them is appendicitis. This micro-organism has its domicile in the digestive track of man and animals, extending from the mouth to the anus. They were for a time regarded as not only inoffensive, but positively useful in the animal economy; but it has been discovered that, under certain circumstances, these microbes may become very virulent and hurtful. Any morbid condition of the bowels

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makes them virulent; inflammation, obstruction, strangulation, diarrhœa, or constipation, may render this bacillus virulent. Constipation is a common cause; indeed, a very large proportion of the cases of all kinds of appendicitis that I have seen were subjects of habitual constipation. The bacillus coli is generally found in cases of appendicitis alone, or sometimes associated with other pathogenic germs.

The pathological conditions, following one or more attacks of appendicitis, can be partially gathered from the report of my cases. The appendix may be fastened like a strap across the cæcum interfering with the peristalsis of the gut; it may be fixed by adhesions to other parts; it may be bent upon itself, and its lumen occluded by kinking; a portion of the canal may be obliterated and closed at its cæcal end, and the distal end distended to several times its natural size, and filled with mucus or pus, or both; a small abscess may be found around the appendix, walled off strongly by a barrier of well-organized fibrin; or else it is said a foreign body may occupy its canal. I have never seen the last; I have seen soft fæcal matter lying in the canal, and several times hard, dry balls of fæcal matter. In one case in Staunton, Va., where I operated for acute appendicitis on a physician's son, the doctor opened the appendix before I completed the operation, and found what looked like two cherry stones. The two little round, smooth balls rattled in a dish as cherry stones would be expected to do, and the mother stated at the time, that her son had eaten pickled cherries a few days before. I afterwards found, when I mashed the supposed seeds, that they were dry, hard fæcal masses. In another patient, a young child I operated on for acute appendicitis for Dr. Moseley, of Richmond, a small, white, kidney-shaped substance, supposed to be a bean, was found to be in the discharge; this also proved to be fæcal matter and fat. I know, of course, that foreign bodies are found in the appendix, but in the thirty-six cases of operation in my hands I have never seen one. Pathological change in the appendix must have taken place before a foreign body could be admitted into the canal, and when admitted it would likely be mischievous only as a conveyor of infection.

It is naturally asked, Is medical treatment in these cases of no avail? I confess, when I recall the pathological conditions found in my cases, that medical means, to my mind, can be expected to help but little, if at all. You cannot, in the present state of the science of medicine, expect it to overcome the difficulties that I have just now stated. But it may be urged that the cases may be only of moderate intensity, and the pathological changes may be slight. Unfortunately, we cannot always tell by the symptoms and duration of the attack how much mischief is done to the parts. An apparently slight and insignificant attack may leave the appendix and parts around it hopelessly crippled and diseased, while an apparently savage attack results in trifling mischief. I have operated after two or three comparatively slight attacks, and found the parts so matted and diseased as to tax all of my skill, and only after hard work of an hour and a half completed the task; and I have operated when, from severe and lasting symptoms, I anticipated great trouble, and found but slight disease, and completed the operation in a few moments. However, I am not opposed to medical measures. I confess, as I say, when I recall the state of the parts as I have seen them, I cannot feel hopeful of any treatment short of the knife. Prolonged rest in bed; rest not for days but for weeks; a restricted and regulated diet, purgatives and counter-irritants by iodine and blisters, massage, and an intestinal antiseptic as salol, constitute the chief remedies, and by them individuals who have had one attack have escaped a subsequent one. It is only fair to say that persons who have had one attack, and who have not pursued the above remedies, but followed their usual course of life, have also escaped a second attack. I am frank to say, however, that I believe the former are more apt to escape than the latter.

The first case reported was not one of good surgery. The appendix should have been removed. That she got well, and has remained well for several years, is evidence rather of good luck than good surgery. These conditions, you know, are sometimes confounded. It teaches, however, the value of persulphate of iron in preventing reunion of separated parts—a fact that I have had repeatedly demonstrated to me before and since that time.

Cases V. and VII. show the hazard of leaving a raw surface, as the stump, after castration in women, unprotected. It would be better to paint this raw surface over with the iron spoken of, touch it with a hot iron, or a hood of peritoneum from some neighboring tissue may be used.

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Cases II., VI. and VIII. show the influence tubular and ovarian diseases may have upon the appendix.

Case XVII. I think it is not too much to say of this, my only fatal case, that he would probably have recovered if the operation had been done in a well-appointed modern hospital.

Lastly, a few words about the *operation*. I make a clean cut straight down on the most prominent part of the swelling, if there is any, or over the supposed site of the appendix, if there is no swelling. I begin near the anterior superior spinous process, and cut inwards and slightly downwards towards the inner border of the rectus. In fact, the incision is almost transverse. The more nearly transverse it can be made, the better the union afterwards, and the less the danger of subsequent hernia. I am afraid of the plan of separating the fibres of the different planes of muscles with retractors and two assistants. The muscles must be injured, repair of bruised parts slower, hernia more common, and drainage, if needed, less perfect. The incision is not more than two inches long in the skin and shorter as the cavity is reached. The peritoneum is opened most cautiously, a piece of omentum, or, more important, a portion of the gut may be adherent, and in the line of the incision. After the belly is opened, Trendelenburg's position is of great assistance. If the appendix is difficult to find, look for the anterior bundle of longitudinal muscular fibres of the colon, follow this as a guide, and it will usually lead you to the little organ. When found and separated, if attached, a circular cut through the peritoneal coat is made, and the serous membrane stripped down for half an inch; a fine silk ligature is tied around the muscular and mucous coats of the little process, and the appendix cut off. The ends of the ligature are cut short. The detached serous membrane is now brought back and stitched or tied over the end of the stump.

Any portion of the omentum that has been adherent, and in contact with the appendix, is ligated and cut off; no matter how large a portion it is, if it is injured or suspected of being infected, it is removed. I lost a case, some years ago, by stupidly returning a piece of omentum that had been in contact with the appendix, and was infected.

The most difficult part of the operation is to deal with the adhesions. It is very important that all adhesions should be undone, if it is possible to do so. A small, delicate periosteal elevator is a useful instrument for this purpose. If the adhesions are left untouched, the patient may get well of the operation, but remain an invalid for the rest of his life, liable at any moment to intestinal occlusion, and subject always to tenderness over the abdomen, and to constant gastro-intestinal uneasiness.

Iodoform is freely dusted over any injured places in the peritoneum, drainage of gauze introduced, if deemed necessary, and the wound closed with a continued fine silk suture for the peritoneum, and silkworm-gut sutures for the muscles, fascia and skin.

CASE I.—*Enlarged Appendix Adherent to Cæcum —Appendix Separated and Not Removed—Recovery.*

Mrs. W. H. B., age 30, patient of Dr. A. G. Taylor, of Chula Depot, Va., was admitted to St. Luke's Home, October 11, 1893. She had had repeated attacks of appendicitis, accompanied by pain, nausea and vomiting, the attacks often lasting five or six days; the duration of one attack was two weeks. Tenderness in the right groin, but no appreciable lump. The abdomen was opened, the appendix found very much enlarged, and firmly adherent to the cæcum; it lay fastened across the organ like a strap. The adhesions were old and well organized, and their separation was difficult, and had to be made with the point of the knife. After being detached from the cæcum, the appendix was found to be five and a half inches long, and as large as my thumb. Just at the junction of the appendix with the cæcum there was a large, hard mass an inch thich, the result of inflammatory deposit. After the appendix was separated from the cæcum, the raw surfaces were rubbed over with Monsel's solution of the persulphate of iron, and the cavity of the abdomen closed. Her recovery was uninterrupted.

A letter received at this writing (two years since the operation) from Dr. Taylor says: "As far as I can judge, her recovery from appendicitis is perfect. She has had a child since the operation, and her health is completely restored."

CASE II.—*Elongated Appendix Adherent to Ovary —Both Removed—Recovery.*

Mrs. L. B., age 42, patient of Dr. Stuart McGuire, of Richmond, Va., was admitted to the Virginia Hospital, November 24, 1893. Has had five attacks of appendicitis, accompanied by pain, fever, great tenderness in the right groin, and a

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distinct lump. The last attack was violent, confining her to bed for three weeks. Operation was performed before the class. After the abdomen was opened, the appendix was found firmly adherent to the right ovary, which was enlarged and inflamed. It was almost impossible to separate these two organs without rupture, and both were removed. The patient made an uninterrupted recovery.

In this case, the appendix was elongated, its cæcal end partially occluded, its free end dilated and distended with gas, and the mucous coat thickened and diseased.

CASE III.—*Elongated Appendix, etc., Removed—Recovery.*

Miss L. B., age 16, patient of Dr. J. H. Young, of Burkeville, Va., was admitted to St. Luke's Home, November 3, 1893. History of one severe and several slight attacks of appendicitis while at home under the charge of Dr. Young. While at school in this city, she had a very severe attack, which laid her up for several weeks, having fever, pain, tenderness in the right groin, but no distinct lump. The abdomen was opened, and the appendix removed. It was found in its normal position, slightly congested, and free from adhesions. It was six and a half inches long, measuring about half an inch in diameter. The free extremity was enlarged, the base contracted; it was dense and firm, almost cartilagenous in consistency. After it was removed, it was found that the lumen next to the cæcum was completly occluded for the distance of an inch by inflammatory deposit, and that the mucous membrane which lined the patent portion of the tube was filled with a sero-mucous fluid, probably resulting from catarrhal inflammation. The wound closed, and recovery uneventful.

CASE IV.—*Appendix as if of Erectile Tissue—Removed—Recovery.*

Miss A. J., age 30, patient of Dr. H. G. Melvin, of Houston, Va.; admitted to St. Luke's Home December 4, 1893. Had history of several severe attacks of appendicular colic during the past year. It was difficult to tell whether the pain in the right groin was due to trouble of the ovary or appendix. No fever, no swelling; the pain, however, was violent, necessitating the use of morphia, lasting sometimes for hours, and on one or two occasions for days. The abdomen was opened, and the appendix was found at once; it stood up as if made of erectile tissue, and if pressed down, would at once fly up in the erect position; its free end was dilated and filled with gas; for an inch from the cæcum, the little tube was apparently solid. The peritoneal covering was congested. No adhesions. The appendix was removed. The patient made an uninterrupted recovery. The operation was simple and quickly performed. To this date the patient remains well.

CASE V.—*Swollen, Elongated and Sharply Flexed Appendix Adherent to Stump of Ovary—Peeled Off and Removed—Recovery.*

Mrs. C. R. H., age 45, patient of Dr. Charles V. Carrington, of Richmond, Va.; admitted to St. Luke's Home December 27, 1894. Two and a half years ago, an operation was performed on this lady by a surgeon in Baltimore for the removal of both ovaries and tubes. Six months ago, she had her first attack of appendicitis, and every two or three weeks since that time an attack occurred, each time after a shorter interval, and each time with more intense symptoms. She had fever, great pain, swelling of the whole flank, but no lump. I opened the abdomen, and found the appendix swollen and congested, and firmly adherent to the stump of the right ovary; it was peeled loose with some difficulty and removed. The appendix was greatly elongated, and sharply bent at its cæcal attachment. The lining membrane of the appendix showed ulcerative changes, and there was a large amount of muco-purulent secretion in it. She recovered without bad symptoms.

CASE VI.—*Appendix Adherent to Ovary Containing Dermoid Cyst—Both Removed—Recovery.*

Mrs. M. B. G., age 34, patient of Dr. James B. McCaw, of Richmond, Va.; admitted to St. Luke's Home December 29, 1894. History of griping pains in her right side; pain continuous, and subject to occasional severe exacerbations, which kept her in bed for days. An examination showed considerable enlargement of the right side; vaginal and rectal examination showed large lump in the right iliac region. Although exact diagnosis was not made, it was determined to open the abdomen, find the trouble, and, if possible, remove it. When this was done, the right ovary was found to contain a dermoid cyst about as large as an orange, to which the appendix had grown. It showed some evidence of disease, and it was considered best to remove it, partly for this reason, and on accoont of the injury done it in freeing it

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from its attachment. The dermoid cyst was removed at the same time, and she made an uneventful recovery.

CASE VII.—*Sharply Flexed Appendix Containing Fæcal Masses, Adherent to Stump of Ovary—Separated and Removed—Recovery.*

Mrs. F. B. C., age 24, patient of Dr. Henckel, of Staunton, Va.; admitted to St. Luke's Home December 30, 1894. This patient was in my hospital two years ago, at which time I removed her tubes and ovaries, which were extensively diseased. Six months ago—eighteen months after the operation—she had her first attack of appendicitis; she has had in all about five severe attacks, each time confining her to bed, and requiring the use of morphia. The last attack was attended with great pain, swelling, and fever. The abdomen being opened, the appendix was found attached to the stump of the right ovary; it was sharply bent upon itself, and stretched. It was easily separated from its attachments, however, and brought out for inspection. It was found congested, red, and swollen, and after its removal, was seen to contain several hard fæcal masses. Her recovery was uninterrupted.

CASE VIII.—*Appendix Adherent to Ovarian Tumor—Both Removed—Recovery.*

Mrs. F. J. T., age 48, patient of Dr. Harrison, of Richmond, Va.; admitted to St. Luke's Home January 9, 1895. This lady had an ovarian tumor of several years' standing, but as for a long time it gave her no trouble, although slowly growing, she declined operative interference. But suddenly, and without any explanation, she began to suffer great pain in the right groin; the pain was continuous. Occasionally, however, she would have a sharp attack, which confined her to bed. On opening the abdomen, the first thing I saw was the appendix running across the face of the tumor like a little snake. It was firmly adherent, and almost impossible to detach without bursting it or the tumor. I removed it, however, and at the same time the ovarian tumor was taken away. Her recovery was complete.

CASE IX.—*Appendix Adherent to Cæcum Transversely, Constricting Bowel—Peeled Off, Leaving Opening in Cæcum, Closed by Sutures—Removed—Recovery.*

Miss N. T. S., age 16, patient of Dr. Stuart McGuire, of Richmond, Va.; admitted to St. Luke's Home March 20, 1895. This young girl had had several attacks of acute appendicitis during the past year, but as three or four months passed and no return of the trouble appeared, her parents sent her to Washington City to school. While there, she had a pretty severe attack—pain in the right side, swelling, muscular rigidity, constipation and fever. Her parents brought her back after the attack subsided, and I deemed it best, after examination, to remove the appendix. The abdomen was opened, the appendix found closely adherent to the cæcum, going transversely across this organ, and somewhat constricting the lumen of the bowel. It was peeled loose after a great deal of trouble and removed. A small opening was made in the cæcum in detaching this appendix, which was closed with fine silk sutures. Her recovery was uninterrupted.

CASE X.—*Elongated Appendix Doubled on Itself, Adherent to Cæcum—Omentum also Adherent—Separated—Omentum Sliced, Ligated, Removed—Releasing an Adherent Coil of Intestines—Appendix Full of Fæces—Removed—Recovery.*

Mrs. E. B. B., age 35, patient of Dr. R. E. Franklin, of Richmond, Va.; admitted to St. Luke's Home March 29, 1895. This lady had been suffering with great trouble for the last six months. The pain was usually confined to the right iliac region, but occasionally extended all over the abdomen. The attack would begin with pain about the umbilicus and extend all over the abdomen, and as it subsided, left great tenderness and soreness in the right iliac region. She was very fat, and an examination failed to determine the exact nature of the trouble. Her last attack kept her in bed for weeks, during which time she had fever, great pain, without appetite, and constipation difficult to overcome, and her life was thought to be in great danger by her attendant physician and by myself, who saw her in consultation. The abdomen was opened, and the appendix was found doubled on itself and fastened to the cæcum; it was dense and firm in consistency, and of unusual length. The omentum was closely adherent to the cæcum and appendix. After separating the omental adhesions, a large slice of the omentum was ligated and removed. An adherent coil of the intestines was also released. The appendix was removed, and found full of fæcal matter. The patient recovered without a bad symptom.

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CASE XI.—*Omentum Adherent to Parietal Peritoneum—Abscess—Appendix Detached—Removed, with Fæcal Lumps—Recovery.*

Mr. G. H. G., age 17, patient of Dr. W. L. Drewry, of Wakefield, Va., entered St. Luke's Home December —, 1893. Had history of several attacks of chronic relapsing appendicitis, the last one only a short time ago. This was very severe, and he was obliged to take a good deal of opium. Along with the pain was fever. His belly, even now, is swollen, and there is tenderness all over the abdomen, but especially in the right iliac region, where there is a distinct lump. I operated on him, and came down, after the abdomen was opened, upon the omentum, slightly adherent to the parietal peritoneum. By palpation I could feel through the thin piece of omentum an abscess cavity. Before opening this, I stitched the surface of the omentum to the parietal peritoneum, so as to keep the peritoneal cavity from the contents of the abscess. I did this stitching very carefully with fine silk, taking some time to accomplish it. After carefully packing gauze around the edges of the opening, I carried the knife through the omentum into the abscess cavity, following it with my finger. I found the detached appendix, which was easily removed, along with one or two hard, small fæcal lumps. The cavity was then washed out carefully, a drainage tube of rubber introduced, and the wound closed. The man made an uneventful recovery.

A letter just received this month from his father, W. C. G., says that he is now hale and hearty, weighing 160 pounds, and has never had a bad symptom since the operation.

CASE XII.—*Omentum Covering and Adherent to Cæcum—Separated—Omentum Ligated and Removed—Appendix filled with Pus, Adherent to Cæcum—Removed—Recovery.*

Mr. W. C. B., age 27, patient of Dr. Keister, of South Boston, Va., admitted to St. Luke's Home April 6th, 1895. This gentleman has had fourteen attacks of appendicitis, each time getting more and more severe. I examined him some months ago, and advised an operation, but he declined. Three weeks ago he had a very severe attack, attended by fever, great pain, the pain lasting for two days; constipation, with swelling of the abdomen, and tenderness over the right iliac region; no lump could be felt. Opened the abdomen, and found the omentum covering the cæcum, and adherent to that organ, and difficult to detach. After separation, a portion of the omentum was ligated and cut away. Several points of adherent bowel were separated. The appendix was fastened to the cæcum for the greater portion of its length, and was detached with difficulty. It was found after removal to be filled with foul-smelling pus. Parts about cæcum looked dirty, brown and friable. Gauze drainage was used and the cavity closed. The drainage was permitted to stay for three days and then removed. He made a good and speedy recovery, without any bad symptoms. Operation in this case lasted one hour and fifteen minutes.

CASE XIII. — *Omentum Adherent to Cæcum—Hole Left in Bowel on Separation—Sewed Up—Appendix containing Bodies Like Boiled Rice, but no Pus—Removed—Recovery.*

Mr. C. R., age 30, patient of Dr. Lewis Wheat, of Richmond, Va., entered St. Luke's Home April 25, 1895. He has had three attacks of appendicitis, the last one very severe, keeping him in bed for three weeks, attended by rise of temperature, great pain and swelling, with a distinct lump in the region of the cæcum. I saw him at this time in consultation with Dr. Wheat, and advised him not to have the operation done until the fever and acute symptoms had disappeared. I operated on him April 25th, six weeks after the subsidence of the last acute attack. Found very extensive adhesions and the omentum fastened to the cæcum. The adhesions were hard to break up. I found three points of adherent coils of intestines, which were separated with great care, and took a good deal of time. The appendix was fastened tightly to the cæcum, and in detaching it I made a hole in the bowel about half an inch long and a quarter of an inch wide. This was immediately sewed up with fine silk, and the appendix removed. It was found, after removal, to be closad at its cæcal end. It contained a large quantity of bodies like boiled rice, but no pus. Inserted gauze drainage, and closed the wound. The next morning he was doing so well that the house surgeon removed the gauze drainage, although the discharge had been very free. As soon as the gauze was removed, he began to get worse; his temperature went up to 101. That night, fortunately, I was able to replace the gauze and re-establish the drainage. The improvement was immediate, and his recovery after that was uneventful.

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CASE XIV.—*Appendix Underneath Cæcum, which was Adherent to Iliac Fossa—Appendix, filled with Pus, Adherent to Peritoneum—Recovery.*

Mr. H. B. L., age 21, patient of Dr. David Lucas, of Quinton, Va., entered St. Luke's Home March 22, 1895. This man has had ten attacks of appendicitis, each one becoming more and more violent; his physician was compelled to give him large doses of opium during every attack, to relieve the pain. He had swelling in the right groin, great tenderness in that region, and habitual constipation, requiring large doses of medicine to move his bowels. I opened the abdomen March 24th; found the appendix, with great difficulty, underneath the cæcum, which organ was adherent to the iliac-fossa, and had to be detached. The appendix, when found, was adherent for three-quarters of an inch of its free end to the peritoneum covering the iliac vessels. It was closed for about an inch of its cæcal portion. The free end of it was bulbous, swollen, dilated, and filled with dirty, foul-smelling pus. Around the appendix in the iliac-fossa was deposited quite a quantity of stuff, which looked like boiled custard, probably about an ounce of it in all in that region. This was scraped out, curetted, and the cavity dusted thickly with iodoform. Gauze drainage was freely used in this case, being allowed to remain for three and a half days. It was then removed, and his recovery was uneventful.

CASE XV.—*Omentum Adherent to Abdominal Wall and Cæcum Detached, Ligated, Removed—Appendix Imbedded in Inflammatory Deposit. Perforated at End and Rotten—Removed—Recovery.*

Mr. A. A. M., age 28, telegraph operator, patient of Dr. C. V. Robinson, of Petersburg, Va., entered St. Luke's Home February 4th, 1895. He has had repeated attacks of appendicitis in the last two years, the last one being very severe, attended by vomiting, pain, fever, etc. The last attack kept the man in bed for three weeks. He never was entirely free from some abdominal trouble after the first attack. The right iliac region has been constantly sore upon pressure, or on taking too much exercise, and there was a distinct lump. The operation was performed February 5th. The usual incision was made and the abdomen opened. The omentum was fastened to the cæcum and to the anterior abdominal wall. It was detached without difficulty, however, and the detached portion ligated and removed. The appendix was found upon the inner side of the cæcum, imbedded in a mass of inflammatory deposit. The adhesions were difficult to break, and at one time I was almost on the point of abandoning the attempt at finding the appendix. When, however, the adhesions were completely removed, the appendix was found enlarged, swollen, perforated at its extremity, and so rotten that it was with great difficulty that it could be handled and tied off. I was obliged to handle it with the greatest gentleness to keep it from bursting. On the inner side of the cæcum, at the site occupied by the appendix, was a cavity filled with some boiled custard-like stuff. This was scooped out, curetted, and covered with iodoform. Gauze drainage was used very freely, and the wound closed. It was impossible, in this case, to cover over the stump of the appendix with peritoneum, as I usually do. However, before I dropped the stump, I applied to the dirty, foul mucous membrane, in the center, the sharp point of a thermo-cautery, searing completely its free surface. The gauze drainage was permitted to remain for three days, when it was removed, and the man recovered, without any untoward symptoms.

June 5th, four months after the operation, an abscess formed in the abdominal wall, not in the cavity of the belly. This abscess was opened and drained by Drs. Budd and Robinson. The man came to see me August 1st, quite well again.

CASE XVI.—*Appendix Blended with Bowel—Stripped from Cæcum—Removed—Recovery.*

Mr. G. M., age 29, book-keeper, patient of Dr. Lewis Harvie, of Danville, Va., entered St. Luke's Home June 17, 1895. He has had repeated attacks of appendicitis, which began about eighteen months ago, and recurred every two or three months. One attack kept him in bed for six weeks. He had decided swelling in the right iliac region. The man is frail and exceedingly delicate at best. As a boy he was threatened with phthisis. He has now occasional attacks of diarrhœa, difficult to control. He is tall, thin, and pale. I operated on him June 18th, making the incision in the usual way. Found that the swelling was due to distension of a portion of the cæcum. The appendix was small, fastened like a strap to the cæcum, and intimately blended with the bowel. I removed it in the usual way, stripping it loose from the cæcum, although it was difficult to do, and I was compelled sometimes to use the point of the knife. Gauze drainage. The man recovered without a bad symptom.

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CASE XVII.—*Omentum Adherent to Bowel—Appendix Hidden in Adhesions, was Distended with Muco-Pus, and Studded with Points like Mortification—Removed—Septic Peritonitis—Death.*

Mr. J. H., age 28, patient of Drs. Austin and McChesney, of Lewisburg, W. Va. Had repeated attacks of appendicitis, requiring the free use of morphia to stop the pain. His general health has been impaired by the attacks. The most severe one was in the spring of last year, which confined him to bed for some time. He was never free from pain, and was tender on pressure over the region of the appendix. He came to see Dr. Stuart McGuire several weeks ago, at the White Sulphur Springs, W. Va., who advised him to come to St. Luke's Home to have the operation done. He preferred to have it done at the White Sulphur, because the weather was so warm, and he could have Dr. Stuart McGuire to attend to the after-treatment. I operated on him June 25th, 1895. Found the adhesions very extensive, and the omentum fastened to the bowel in many places. The appendix was distended and enlarged and filled with muco-pus, and its walls studded with numerous small, dark points; these points looked as if mortification had taken place. The operation was an exceedingly difficult one; the appendix was hidden under a mass of adhesions, which were old and well organized, and it was not until I had separated a great many of these adhesions, that I was able to find the appendix at all. Gauze drainage was used, and the patient did well for twenty-four hours. His temperature, the morning after the operation, was 99°. Slight vomiting of bile that morning. About 2 o'clock, the second day, his temperature rose to 101°, at four 102 3-5°, at five 103°. Dr. Stuart McGuire had given him five grains of calomel that morning, and afterwards sulphate of magnesia, both of which, however, were rejected. Enemata were used, the long rectal tube was employed, but all failed to move his bowels. The next day, Dr. Stuart McGuire cut the stitches and opened the wound; found a pint or more of bloody serum in the cavity, the small intestines distended with gas, and a small piece of the omentum which I had detached was fastened to the bowel in the neighborhood. These were all broken loose, the abdomen flushed out, and a great many drains of sterilized gauze were inserted. The patient rallied well, and an hour later was apparently better than before this secondary operation. About dark, however, he began to fail, and died at 10:20 that night from septic peritonitis.—*Virginia Medical Monthly.*

Section on Ophthalmology, College of Physicians of Philadelphia.

A stated meeting of the Section on Ophthalmology was held in the lower hall, College of Physicians, on 19th November, 1895, Dr. Wm. F. Norris, chairman, presiding. Present, Drs. Geo. Fales Baker, J. M. Da Costa, Cleeman, Eshner, Fenton, Friebis, Goodman, J. H. Grove, Hansell, Jackson, Leidy, Longaker, Wm. F. Norris, Oliver, Ring, Jno. M. Taylor and Zentmayer, fellows of the college, and Drs. Bromley, Cassel, Mellor, Moorhead, Schneideman and S. Lewis Ziegler as guests.

Dr. Edward Jackson exhibited a binocular lens for examination of the eye by oblique illumination. The speaker stated that he had been experimenting with such lenses for more than two years, and had at last obtained one made from a single piece of glass which gave a true stereoscopic image with little or no distortion.

Dr. S. Lewis Ziegler showed a case of congenital dislocation of the crystaline lens in a boy thirteen years old. Dr. Jackson reported a similar instance in which one lens had escaped into the anterior chamber, producing symptoms of secondary glaucoma; these symptoms disappeared immediately upon removal of the lens.

Dr. Charles A. Oliver gave a brief history of a case of a young girl seventeen years of age, in which a lens was successfully removed by a wire loop through an inferior section, the operation being performed by Dr. Norris. He also called attention to a traumatic case in which he had successfully removed a lens, restoring the patient's vision to almost full acuity, and mentioned that he fixed the lens into position so as not to fall back into the posterior chamber by spitting it through the corneal membrane by means of a narrow needle. In this case the section was made upward and the lens was removed by a loop without the loss of any vitreous, in spite of a widely dilated pupil.

Dr. George Friebis related the subsequent history of a double cataract extraction in a ninety-year-old patient in which the visual result in the left eye equaled almost full acuity and that of the right eye nearly one-half of normal. He stated that he considered these results remarkable in view

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of the fact that the optic discs were pallid and that the retinal vessels were contracted.

Dr. Howard F. Hansell cited four interesting cases of traumatism. The first case was that of a man who was struck with a broken bottle, cutting the left eyelid and producing a wound of one centermeter's length involving the corneo-scleral border and the upper ciliary regions. The iris was prolapsed, the lens was dislocated under the conjunctiva, and there was an extensive loss of vitreous with profuse hemorrhage. The lens was removed, and under antiseptic dressings and a pressure bandage, the wound healed and the prolapsed portion of the iris became glazed over. Therc were vitreous synechia cicatrized in the corneal wound. Ciliary tenderness, diminished tension, and absolute blindness were deemed of sufficient moment to enucleate the globe, which was done by a modified method from that recently proposed by Sukers, the four recti muscles being sutured together by a piece of catgut, which was passed through each muscle before division, thus including their distal ends and producing a bunch of tissue which would permit of more regular and extensive movement of an artificial eye. Contrary to expectation, no foreign body could be found in the organ. The second case was that of a boy who, whilst exploding a dynamite cap, had a piece enter the right eyeball in the lower inner quadrant, making a clean cut through the conjunctiva and sclerotic in the ciliary region. The piece of copper lodged in the ciliary body at a point opposite its entrance, where it could be readily seen through the uninjured lens with the ophthalmoscope after the pupil had been dilated with atropine. There were hemorrhagic extravasations into the anterior and vitreous chamber and into the sub-conjunctival tissue. Vision for distance was scarcely disturbed. In spite of increase of irritation signs, the parents positively refused to permit any attempt to extract the foreign substance. The third case was that of an Italian who received a wound in the right eye by the premature explosion of a dynamite cartridge. The accident occurred whilst the patient was engaged in blasting, about a month before he was seen. At the time of the first examination, an irregular, sharply outlined scar could be recognized about the center of the cornea. The anterior chamber was shallow, the iris was greatly contracted, and the pupil was filled with exudation. There was no light-perception, and intra-ocular tension equaled minus 2. The eyeball was injected and painful. Two days later it was enucleated, revealing the presence of a piece of copper which was found attached to the posterior capsule of the lens. The lens itself had been transformed into a semi-fluid, viscid mass. The fourth case was seen within an hour after the patient, a machinist, had had a tool with a sharp cutting edge knocked out of his hand against his eye, making a clean cut through the cornea, the iris, and the lens. A large portion of the vitreous had escaped. The iris, which was torn from nearly the whole circumference of its peripheral attachment and twisted on itself, protruded from the wound and rested on the prolapsed vitreous. The protruding portions of both the iris and vitreous were excised. The eye was washed with a bichloride solution and an antiseptic pressure bandage was applied.

In the discussion, Dr. Jackson referred to Leber's paper, in which the virulence of particles of copper in the eye was so prominently brought forth.

Dr. G. Oram Ring spoke of a case in a fourteen-year-old boy, which he had seen twenty-four hours after the accident. Six millimeters back of the corneo-scleral junction there was a wound, through which a probe could be passed and a metallic substance could be felt. The foreign body was removed and found to be a piece of gun-cap. The wound was penciled with a 1 to 500 strength of bi-chloride of mercury, and ice compresses were employed. The case went on to full recovery with a vision of $\frac{20}{50}$. He cited another case in a colored man whom he saw one hour after a cut in the cornea had been received. The iris was adherent, there was rapid swelling of the lens, and in thirty-six hours panophthalmitis was so pronounced that enucleation was rendered difficult. A piece of steel, broken from a hammer, was found lodged in the ciliary region.

Dr. Friebis detailed a brief account of a case that he had seen five years previously, in which a seventeen-year-old lad had his right eye-ball so ruptured through a large corneo-scleral wound by a piece of hot iron that nearly all of the vitreous humor had escaped and the folds of the ciliary processes were exposed to view. Upon saturing the sclera and the cornea, the latter membrane immediately regained its luster. In two months' time the interior of the eye had cleared itself sufficiently to allow the patient a vision of $\frac{20}{cc}$, this being obtained with the correction of about a diopter and a half of astigmatism. One year ago vision had risen to $\frac{15}{xx}$, with a correcting lens of

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+ S. 0.50 D. ⌒ + C. 1. D. ax. 60°. Tension was slightly minus. At present there is a normal acuity of vision with + C. 0.50 D. ax. 90°. The remarkable part of the case consists in the fact that the lens was not disturbed in any way in spite of the severe traumatism.

Dr. Jackson cited a case of cataract extraction in advanced diabetes that he had recently seen in Denver, Colorado, in which the immediate results were excellent up to the fifth day, when the patient complained that she had sudden loss of vision with severe pain. There was œdema of the globe with slight hyperemia of the anterior segment. No trace of infection could be detected. Both œdema and pain increased. The iris became inflamed and pus appeared in the anterior chamber. A week later the patient complained of pain in the arm, and a diagnosis of thrombosis of the upper extremity was made. The patient died of cerebral thrombosis. The ocular symptoms were supposed to be dependent upon thrombosis of the chorioidal veins.

Dr. Oliver exhibited a series of water-color sketches, made for him by Miss Margaretta Washington. They embraced several drawings of the ophthalmoscopic appearances of intense neuroretinitis in supposed cerebral and cerebellar tumors; degeneration changes in the retina and optic nerve from descending neuritis in a case of basilar meningitis; retinal hemorrhage and blood extravasations into the vitreous in a case of supposed embolism of the central retinal artery; macular changes in a case of lightning stroke; the appearance of the optic nerve-head and surrounding retina in a case of hereditary retrobulbar neuritis and a remarkable retinal vessel distribution in a case of coloboma of the iris and chorioid.

The meeting then went into executive session. Upon motion, adjourned.

CHARLES A. OLIVER,
Clerk of Section.

A RECENT paper in the *Lancet* concludes that it is a part of the duty of the physician in all cases of typhoid to make an analysis of the urine with the hope of obtaining verification of the diagnosis by the discovery of the typhoid bacilli. In six cases out of seven on which the paper is based the bacilli were discovered. It is hardly necessary to domore than merely advert to the hygienic aspect of the matter. It is only a natural outcome of the intestinal intoxication theory of typhoid fever that the greatest precaution should have been enjoined in regard to the defecations of the patient suffering from typhoid fever, whilst the disinfection of the urine was neglected. If, however, the recent observations in the almost complete absence of typhoid fever bacilli from the the defecations are to be trusted, the disinfection of the fœces will have to rank as a mere "counsel of perfection." On the contrary, the most careful attention will have to be paid to the urine and its disinfection. In some patients the urine, even before incubation, is absolutely turbid with typhoid bacilli.

The Surgical Use of Cocaine.

BY B. M. RICKETTS, PH. B., M. D., CINCINNATI, O.

I look upon cocaine as the greatest acquisition to the list of anæsthetics since the day of their discovery.

That it is in a measure dangerous cannot be denied, but as all powerful and useful drugs are more or less dangerous, we must console ourselves with the thought that a certain class of surgery and its good results could not be accomplished without them.

Admitting, then, that it is dangerous, even in the hands of those most skilled in its use, we are all the better prepared to rely implicitly upon its effects in producing anæsthesia for operations where it is desired not to produce unconsciousness.

What can be more dangerous than unconsciousness from any cause other than natural sleep?

Yet there are certain individuals whom it is better to make unconscious than to subject them to the fright which often tends operations, especially if the operation is to be grave or prolonged.

I have found that a few persons are not very susceptible to the effects of cocaine, while others are very much so. While this is the case, I do not believe that the effects are as have been reported, instantaneous. No more so than the effects of strychnia, atropia or morphia.

Such cases I consider nothing more than fright or ordinary faint. It is a physiological impossibility for a person to fall unconscious instantly upon the application of cocaine to the system in any way, especially if that person be in a normal physical and mental condition at the end of fifteen minutes from the time of its application.

There are more means of determining the safe application of cocaine than of chloroform or ether, and I believe that the bad results from the use of cocaine are to be more attributed to the operator than are the bad results of chloro-

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form or ether. This, I believe, is due to the fact that physicians are not so familiar with the use of cocaine, and the exceeding uncertainty of chloroform and ether.

The amount that I have used in a given operation has varied from one-eighth to seven and one-half grains. The latter amount was used in a plastic operation for the restoration of both the left lower eyelid and right upper lip. This was in a case referred to me by Dr. D. D. Bramble and the amount was consumed within one and one-half hours.

The pulse reached 120 and respirations 24 per minute, but nothing more unpleasant arose.

On the other hand I have had the most alarming symptoms following the injections of but three-quarters of a grain (Merk's crystals) into the lower lip for the removal by cautery of an epithelioma.

This was in the case of a man, age 69, of a highly nervous temperament. The excitement was intense; the pulse 140 and respiration 30 per minute; he was generally discomboberated without unconsciousness or delirium.

He yelled at the top of his voice; pounded the couch, myself and assistant, Dr. Spargur. Talked rationally and expressed his chagrin that a man as old as he was should make a fool of himself, he also added that his condition was about the same as when he was drunk at the age of twenty.

Quietude was soon established and he was entirely over the stimulating effects at the end of one hour and a half.

In this case the symptoms were more aggravated than any of the six cases of poison that I have encountered among the one thousand in which I have used cocaine.

The other cases manifested similar symptoms, but very much less severe, but one, however, having delirium and none unconsciousness.

I have found that primary union is with cocaine, as with all local anæsthetics, less likely to take place. This may be accounted for, perhaps, by the hemorrhage poured out from the capillaries that have become dilated as the secondary effect of the cocaine. The first effect is to contract the capillaries, which afterwards become over dialated, and thus allows hemorrhage to take place, which prevents union.

This has also been charged to the use of chloroform and ether.

I have used cocaine without a slough in the following operations, thus showing the very broad range of surgery in which it has been personally applied:

1. Circumcision.
2. Cutaneous tumors.
3. Subcutaneous tumors.
4. Varicocele (open operation).
5. Hydrocele (removal of sac).
6. Tubercular Glands.
7. Phymosis.
8. Periphymosis.
9. Internal Urethrotomy.
10. Removal of Ingrowing Nails.
11. Fistulæ (Sundry).
12. Hemorrhoidal Operations.
13. Amputation Finger and Toes.
14. Tenotomies.
15. Plastic Operations.
16. Incising Abscesses.
17. Neurectomies.
18. Neurotomies.
19. Preparing Surfaces for Grafts.
20. Removing Grafts.
21. Anæsthesia for Cautery and Caustic.
22. Amputation of Scrotum.
23. Removal of Testicle.
24. Ligation of Varicose Veins.
25. Exploratory Incision for Bone Disease.
26. Removal of Bones of the Feet and Hands.
27. Removal of Bone Spiculæ.
28. Removal of Foreign Bodies.

In conclusion I would offer the following *maxims:*

1. Solutions should not be made except at time of operation.

2. Cold water solutions will add materially to the good effects of the cocaine.

3. An operator should accustom himself to but one kind of cocaine and confine himself to the use of that kind, as he does chloroform.

4. The operator should prepare the solution himself and not entrust it to an assistant.

5. Only small amounts should be used, especially in the young, the old and in highly nervous persons.

6. Small quantities should be used in operations upon the face, head and neck.

7. Operations should be made as soon as possible after the area has become anæsthetized that as much as possible of the solution may escape through the wound and thus not enter the general circulation.

8. The finest needle should be used, and its length should be sufficient to traverse the line of incision intra-cutaneously with but one puncture.

9. Intra-cutaneous and not subcutaneous injections should be made, because there is less of the drug absorbed and because there is no pain to result from cutting tissue beneath the integument.

10. The nearer the injection is to the end of the member the less is the amount of absorption.

11. The prepuce, fingers, toes, hands and feet can be constricted in such a way as to prevent to a considerable degree the entrance of the solution into the general circulation.

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Original Articles.

Injuries of the Skull and Its Contents.

By W. H. EARLES, M. D., MILWAUKEE, WIS.

Professor of Principles and Practice of Surgery and Clinical Surgery, Milwaukee Medical College; Surgeon to Trinity Hospital; Consulting Surgeon to Milwaukee Free Dispensary; Surgeon to Milwaukee County Hospital.

Mr. President and Gentlemen of the Society:

In view of the frequency of injuries to the skull and its contents and the serious consequences that so often follow them, I would invite you to review with me this field of surgery which to every practitioner should possess more than ordinary interest, as it entails more than ordinary responsibilities. It has been said that "no injury to the head is too slight to be despised nor too severe to be despaired of." If this be true, what a range of possibilities confronts the practitioner, from the slight and apparently trivial scalp wound to the compound fracture of the base of the skull with accompanying laceration of brain tissue, and with what care should we treat all head injuries, not alone that we may secure satisfactory immediate results but also that we may prevent undesirable remote ones. In a paper read a few years ago before the Wisconsin State Medical Society, I attempted, in a feeble way, to describe some of the conditions resulting from injuries to the head, which so frequently confront the practitioner; in this short paper I will confine myself to generalizing, depending upon the discussion to bring out the more specific details.

The anatomic arrangement of the bones of the skull as well as the delicate nature of its contents, makes possible a multitude of pathologic conditions; the constant exposure of the skull to violence, both direct and indirect, necessarily implies frequency of injury; the many physiologic communications existing between the exterior and interior of the skull walls, furnish convenient channels for that much dreaded condition known as septic infection; while the multiplicity of obstacles—anatomic, pathologic and physiologic—to be overcome in the event of severe injury, in and of themselves demand on the part of the surgeon an intimate knowledge, not alone of the normal conditions and appearances of the parts, but also of the possible and even probable pathologic conditions that may be present, however slight the injury. It is a well-recognized fact that a blow upon the head may produce any one of a variety of fractures with or without injury to the brain, its coverings or circulation. The outer plate of bone may be broken without affecting the inner and the latter may be fractured without the presence of any apparent or real depression of the outer one. As a rule, both plates are involved. Inasmuch, however, as the fracture itself is of minor importance compared with the possible injury to the brain, our thoughts naturally center upon the condition of this organ, in contemplation of which our range of mental speculation should be broad and comprehensive and should embrace within its area a clear conception of the *remote* as well as of the *immediate* effects of the injury. Clinical experiences leave no doubt that injuries which at first may appear insignificant and trifling, are often followed by the most grave consequences, and it is equally true that those which at first appear to be grave and are accompanied with fracture and marked depressions of portions of the skull walls, may terminate without leaving any permanent or injurious effects on the patient. To support this statement, I beg leave to cite the following cases which came under my observation within the last year and which seem to be especially calculated to illustrate this point:

CASE I.—Chas. M., age 13, living in the country, was accidentally struck on the back of the

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head with a pail, partially filled with frozen water. No scalp wound, and aside from the immediate stunning caused by the blow the patient suffered no inconvenience. The following day the patient had developed converging strabismus with marked exophthalmus of both eyes accompanied with impaired visual powers. He was sent to a physician in the city to be treated for the eye symptoms, and by him referred to me. An examination revealed a slight depression on the occipital bone just above and slightly to the left of the occipital protuberance. Suspecting fracture, the scalp and periostium were opened and raised and the skull examined. Aside from the depression there was apparently no injury to the outer table. The trephine was used and a button of bone removed which showed fracture and depression of the inner plate, beneath which was found a small clot. The opening in the dura-mater was united with catgut, the wound in the scalp closed in the usual way, without drainage. Within a week the exophthalmus had entirely disappeared and within two weeks the eyes assumed their normal appearance and functions. On the 23d day the patient was discharged from the hospital as "cured." The points of special interest in this case are the slight inconvenience caused by a blow sufficiently severe to produce fracture; the depression of the external plate without fracture and the peculiar effect on the eyes.

CASE II.—L. S., age 18, a well-developed and athletic fellow, while sparring on July 21st, 1895, was struck with sufficient force to cause him to fall, striking his head upon a hard, unpadded floor. Unconsciousness almost immediately followed. The patient soon became cold, with slow and labored breathing. I saw him two hours after the fall and found his pulse 40, temp. 102 and respiration 12. A careful examination revealed no evidences of injury to the skull. He was removed to the hospital, where his temperature rapidly rose until at one o'clock P. M. July 22d, fourteen hours after he had received the blow, it reached 108° F., when he died. At the post mortem the skull was found to be uninjured, but upon the left side of the brain, including the dura-mater, was found a deep laceration nearly three inches in length, which contained a large blood clot—apparently about three ounces in volume. This case strikingly shows the extent to which the brain tissue may be injured without any injury to the skull wall itself being present or even an injury to the scalp indicating that the skull had been subjected to a severe traumatism.

CASE III.—At 10 o'clock P. M., on October 12, 1895, was called to see Mary W., a six-year-old child. The attending physician stated that at 6 o'clock P. M. the same day, the child had been run over by a coal wagon, resulting in a long flesh wound extending clear across the forehead and on the left posterior part of the head a marked depression of the skull bone. The child was conscious and showed no evidences of any injury to the brain. Two hours later, at the hospital, the scalp was dissected back from over the depressed bone and the fracture exposed. The depressed bone was broken in many pieces and it became necessary to remove them all in order to get the wound clean. After the removal of the fragments of the bone, the irregular opening in the skull wall measured one and three-eighths inches in length by one and one-quarter inches in width. The brain itself was not injured and the dura-mater but slightly so. The wound was carefully cleansed and the scalp closed. The patient made an uninterrupted recovery, and on the 16th day after the accident left the hospital. The points of especial interest in the case are many. The total absence of any symptoms indicating brain pressure, notwithstanding the marked depression in the skull; the uninjured condition of the dura and brain tissue after being subjected and exposed to such violence; the total absence of shock in the patient (when we consider the age, accident and operation), and the resisting power exhibited by the skull in not being crushed by the weight of so heavy a wagon. These cases will perhaps serve to illustrate to some extent the position taken in this paper relative to head injuries, that external appearances are but little to be relied on and will often deceive us unless our thoughts go far deeper than the surface. In the first case here cited there was no external wound and no constitutional impressions worthy of note; still there was fracture of the skull and sufficient intra-cranial pressure to seriously interfere with the functions of the eyes. In the second case there existed not even a scalp wound to indicate traumatism, noth-

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ing, in fact, to give the slightest clue to the seat of the lesion, and still there existed such injury to the brain that the patient never regained consciousness, and died in fourteen hours from the effects of the injury. In the last case there was great destruction of the external soft parts as well as fracture of the bones—a compound comminuted fracture of the vault, liberally infected with foreign matter, and still the brain and its coverings were practically uninjured and the patient had apparently fully recovered in about two weeks.

Horsley has clearly established that brain scars, scars in the dura and depressed fragments of bone frequently cause epilepsy and that the removal of those causes usually results in benefit to, and often in cure of, the patient. With this well-defined and demonstrated proposition before us, combined and taken in connection with other clinical facts equally well established, we have reasonably safe guides to follow in the treatment of all head injuries. In attempting to outline a general plan of treatment, we would place in the rank of first importance, surgical cleanliness. Without this no one can hope to do satisfactory work upon the skull, its coverings or its contents. We must not forget that infection is easily and readily carried from the scalp to the brain or its coverings through the channels already referred to, and that such an occurrence cannot be too profoundly regretted. When resulting through the carelessness or unsurgical habits of the medical attendant, it cannot be too emphatically condemned. The experience of all who work in this particular field goes to prove that we can enter the cavity of the skull and there deal with conditions demanding surgical attention with the same confidence and assurance of securing desired results that we possess when we enter the abdominal cavity, providing we exercise the same care and possess the same cleanliness. In all operations upon the skull, the entire head should be shaved and thoroughly disinfected before the skull wall is opened. All foreign matter should be thoroughly removed, even though the chisel and hammer be necessary for the accomplishment of this result. The latter is often necessary where dirt, hair, etc., become lodged in the line of fracture. The surgeon's hands, instruments, etc., should be thoroughly disinfected and nothing of whatever kind or nature allowed to touch the wounds except that which is known to be surgically clean. The next care of the surgeon is to ascertain, if possible, the nature and extent of the injury. If there be fracture with depression, this can only be done by exploration. Removal of a section of bone either with the trephine or chisel, places the field of injury within visual observation and clears up questions that must otherwise remain in doubt. In all cases sufficient bone should be removed to permit of a thorough inspection of the field of operation. With the injured parts before us and readily reached, we treat them as we treat injured structures in other parts of the body. All foreign matter and blood clots are to be removed, the parts thoroughly cleansed, hemorrhage controlled, either by hot applications, pressure or the ligature. If these methods fail to control the hemorrhage an iodoform gauze tampon may be used. After thorough cleansing and control of hemorrhage any ragged edges in the wound must be removed, securing, if possible, smooth coapting surfaces. The wound in the brain should first be closed with cat-gut sutures. The wound in the dura mater is then carefully united with cat-gut and the scalp wound closed in the usual way, with or without drainage. When the operator has reason to believe that his work has been aseptic throughout, there is no necessity of drainage. When, however, he has reason to fear subsequent septic trouble it is safer practice to insert a gauze or rubber tube drain. A few strands of cat-gut often serve a good purpose by draining such wounds of their accompanying and unavoidable exudate. The patient must be put at physical and mental rest and his condition closely watched for at least ten days. Any evidence of septic disturbances about the wound demands prompt interference on the part of the attendant. The scalp must be opened up and the parts thoroughly irrigated and cleansed. If the trouble be deeper seated the dura must be opened and drainage inserted. In short, having failed to secure an aseptic result we must now rigidly enforce the antiseptic line of treatment until healing is complete. It must not be forgotten that the granulation and scar tissue resulting in wounds that do not heal by first intention, are prone to be followed by the dreaded *remote* effects

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which are often immeasurably worse than death. Even a cicatrice of the scalp has been known to be followed by epileptic seizures, while scars in brain tissue or dura-mater are classed by all as among the prime factors in the causation of this much dreaded and mysterious malady. We should, therefore, leave nothing undone that can in any way conduce to or further the prospects of healing by first intention, for while we may without it secure reasonably satisfactory immediate results, we cannot hope for satisfactory remote ones. In the event of epilepsy or other serious nervous manifestations following injury to the head, it is the plain duty of the surgeon to look for the cause and if found to remove it as soon as may be. Opening down upon the supposed seat of injury, either with trephine, chisel or both, the depressed bone should be elevated or removed and any scar tissue found, either in brain or dura, must be excised. This can be done with almost perfect safety if ordinary care and surgical cleanliness be observed. The happy effects of such operations are often manifest, and while we are still in doubt as to their *modus operandi*, the results, at least, are very gratifying. Even if we admit that the so-called cures of traumatic epilepsy through operation are entirely due to the moral effect, the results are no less valuable to the patient. Each case should be carefully studied in all its details and should be treated in and according to the light which the researches, observations and clinical experience of the past has furnished. When we have familiarized ourselves with the results and achievements of this past and treat our patients without doing violence to the rules which this experience has established, then and not till then have we any right to feel that we are living up to our high possibilities. This paper is not intended to encourage indiscriminate and careless operative work upon the skull or its contents, but rather to stimulate a closer and more thorough study of the conditions with which it deals. The importance of this part of the anatomy to the well-being of the individual as a whole, demands, it seems to me, more attention than is generally given it by the individual members of our calling. Placed in positions where we are likely to be called upon at any time to assume the responsibilities involved in such cases, we should, in doing even ordinary justice to our patients, be prepared to treat them with a fair degree of intelligence and they should receive at our hands that degree of surgical skill which in this day they are fairly entitled to. The researches and records of Macewen, Horsley, Fluhrer, Weismann and others, combined with our present knowledge of surgical cleanliness, place us in a position to do at least reasonably accurate and successful work upon the brain, its coverings and its circulation; and when we consider the importance of maintaining the integrity and security of this great nerve center and its peculiar liability to injury, both on account of the delicacy of its structure and its constant exposed position, I hope you will agree with me that all time and thought spent thereon are not to be regarded in any other light than that of having been worthily bestowed.

Pneumonia.

BY DR. JOHN PHILLIPS, STEVENS POINT, WIS.

Read before the N. W. Medical Asso'n, Jan. 14, 1896.

As *Pneumonia* is more prevalent during the winter months, it may be profitable to devote a little time to the discussion of this formidable disease. The few words I have to offer will be more particularly concerning *treatment*, when the patient is seen *late* in the disease.

You may be called to see a patient already sick six or seven days with pneumonia, both lungs involved, with nostrils distended, countenance anxious and cyanosed, the smothered cough failing quite to clear the lungs of the tenaceous rust colored sputa, now rapidly filling the larger as well as the small bronchii, the tired, worn heart, vainly struggling to perform the function of carrying the blood through the lungs, and the patient fairly gasping for breath; and now what is to be done in this stage of the disease? Little or much? Shall the treatment be temporizing or *heroic*? We will see. Way back in 1848 it was my fortune to listen to a clinic by Prof. Brainard of Rush Med. College, with a patient in this *very* condition at his side, to a class of about twenty, one-half of whom were practitioners.

The lecture commenced as follows: "Gentlemen, we have here a patient suffering with pneumonia of eight days' standing. Both lungs are badly engorged, so that he is, as you see, laboring

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hard to get breath enough to exist, and this he can do only in a sitting position. He is already becoming greatly cyanosed and can, at most, live but a few hours in this condition. And *now*, gentlemen, I don't suppose any one of you would for a moment think of bleeding a person in this stage of pneumonia. You would expect him to die in the operation, and to get the credit of killing your patient. *Nevertheless*, I shall bleed him freely, with a large stream, as you see, nearly to a fainting condition, and while he may not recover, he will at least get great relief from the dyspnœa, his life will be somewhat prolonged, with a *chance* of ultimate recovery." The patient being a stout chested person, the bleeding was to the extent of about two pints, and till indications of fainting were seen, when the patient was laid down in bed and his arm dressed.

The language is *very close* to that used by the lecturer, and the condition of the patient was quite as desperate as described.

At *this time* he opened the vein. When about half the blood had been taken, the patient was asked. "Now, my man, how do you feel?" "A little better, *Docthur*." He was directed to take a long breath, this he was unable to do. The cough and the pain in his side preventing. A little later to the same question he replied: "A good deal better, *Docthur*." (He had an Irishman's tongue.) The after-treatment consisted largely in the use of opium with antimony and spica, with calomel in broken doses to the extent of slight ptyalism, an occasional laxative, with counter-irritants to the chest and quinine as a tonic, and a liquid but nourishing diet. With this treatment, notwithstanding the case was so unpromising at first, the patient made a good recovery.

In the nearly fifty years since I have in a goodly number of cases, some *quite* as *desperate*, others nearly so, made use of about the same means, always (I am speaking of this class of cases) preceding other treatment by copious blood letting, uniformly getting great relief, and often ultimate recovery.

I will detain you to mention two cases only in my own practice. The first, Moses Verbunkie, a Frenchman, nearly 40 years of age, whom I visited, riding twenty-two miles in the night, in May, 1849, already sick six days, both lungs involved, and whose condition was in every way quite as desperate as the case mentioned. Without hesitation, copious vene-section was resorted to, and the general treatment heretofore mentioned pretty nearly followed, and with this treatment aided by a good constitution, the patient made a good recovery, and is still living at the advanced age of 85 or 6 years. Two or three years later I saw a patient in an adjoining town under the care of another physician, already sick a week, and in this same advanced and seemingly hopeless condition. To my proposal of vene-section, the answer was, "My God, the man will die in the operation and we will get the credit of killing him." No difference, he is going to die anyway? "Yes." Well, if we bleed him, he can't any more than die. "No; well, you may bleed him, but I won't." As you may believe, the man got bled, and that isn't all, he got well and lived to the advanced age of 84 or 5 dying a little more than a year ago.

Whatever a physician's opinion may be, of the best method of treating pneumonia when seen early, I believe no physician would have hope of relieving these *advanced* and formidable cases unless he had seen such relief through the use of the lancet.

Malignant Tumors and Toxin Treatment.

BY DR. SAUERHERING, WAUSAU, WIS.

In the *Medical Record* of January 19th, 1895, there appeared an article by Dr. W. B. Coley, of New York, giving a résumé of his experience in the treatment of inoperable cases of malignant tumors with the toxins of erysipelas and bacillus prodigiosus.

Added to his own cases the doctor cites a number of others treated by other physicians, and the results are, to say the least, marvelous, carrying with them a positive cure in the larger number of cases and an amelioration of the symptoms in all.

Having at different times been called upon to operate on cases of this kind, some so far advanced as to offer but very little hope of success, and having seen so many recurrences as to almost look upon all cases of this kind with a doubtful eye, I decided to try the toxin treatment on the first case coming under my observation and will

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now proceed to outline my result with the treatment.

On the 29th of April, 1895, Mrs. L., nat., German, age about 58, presented herself for treatment. On examination I found a large, solid tumor extending from the angle of the lower jaw forward and downward closely to the bone but not firmly attached, with processes extending downwards behind the sterno-cleido-mastoid muscle, and behind the sternum. The glenoid cavity was involved, allowing but very limited motion of the lower law, it being impossible to separate the incisor teeth more than one-half an inch, there being absolutely no force to the closing movement, making it impossible to masticate any food whatsoever. As the people were clamoring for an operation I decided to ablate the mass and to determine as near as possible the extent of tissues involved.

Operation May 2d. After removing the larger part of the mass, using the elevator to separate it from the lower maxilla, I found that the large vessels and nerves of the neck were imbedded in the tumor, the trachea just beneath the cricoid cartilage affected and as near as I could determine, a process nearly two inches long extending downward behind the sternum. The glands in the supra-clavicular space involved, also the root of the tongue, explaining the painful deglutition present. The cavity was packed with iodoform gauze and the skin drawn together and sutured. The case progressed uneventfully after the operation and she was discharged at the end of a week with the cavity remaining, but with good union in the line of sutures except the small space near the lower angle left for drainage. Up to this time no recurring growth was visible.

Her instructions were to go home and to wait until notified of the arrival of the toxins which had been sent for.

On the 3d day of June the toxins arrived and on the 4th our patient reappeared. She presented a pitiable appearance. The entire surface over the site of the tumor was of a dusky red color and there was a very offensive sanious discharge from the drainage opening. Her history while away was this:

The progress was uneventful for several weeks when the parts became very sensitive and began to swell, the color and discharge appearing at about the same time. Her inability to take a sufficient amount of nourishing food, the painfulness of, and the great mental disturbance produced by the knowledge of the character of the growth had produced a condition where the mental balance was in danger of being overturned. The entire side of the neck was swollen and enlarged, deglutition very difficult and painful, breathing interfered with and inability to separate the jaws to as large an extent as formerly.

As the erysipelatous attack was in line with the treatment intended, we allowed the same to progress undisturbed. and devoted our attention to feeding and such medication looking to an improvement of the general condition. She was a very strong-minded woman, wanted to recover, and aided our efforts wherever able to do so. Under these conditions she began to improve and on the 14th day of June, ten days after readmittance we began to make the injections.

The toxins were from the laboratory of H. K. Mulford & Co., of Philadelphia, and the stated dose was from 3 to 5 minims.

As this was my first experience I decided to be on the safe side and injected 1 minim as the initial dose.

This gave a very prompt and violent reaction, manifesting itself by a chill of one and one-quarter hours duration, succeeded by a rise of temperature to 105 degrees, the pulse being 140 to 150 per minute. In view of this, seemingly too violent reaction, three days were allowed to elapse before making the second injection of m ii, followed by the same symptoms, but as I thought not quite so violent. The dose was now increased rapidily to m v, allowing ninety-six hours between the injections, when the reactions became weaker and the depression not so great.

The interval was then shortened to forty-eight hours and the injections continued until the discharge became so copious and foul smelling that a second operative step was decided to be necessary.

On the 30th day of July an excavation of the necrotic tissue was made under anæsthesia and large amounts of tissue removed. It was then found that the breaking down process had affected all the tissues infected, and a small opening had

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formed in the trachea and in the œsophagus, allowing air at each respiratory movement to escape into the wound, also particles of food. The sharp spoon was used and while working in the neighborhood of the large vessels and nerves, there was a sudden short convulsive movement and arrest of the respiration, undoubtedly due to scraping the phrenic nerve. Following this cleansing out process there was a rapid decline of all powers and she died of inanition on the 11th day of August.

This is the only case where I have been enabled to give the toxin method a trial, and although unsuccessful I am not ready to condemn the same. A great many circumstances entered into the case which would have been a drawback to any mode of treatment, if indeed, the case at its first presentation was amenable to any other. In my opinion it was not, and were I to treat a like case I would rather see it pass away from me to some one else than to make the first operation. Although Dr. Coley states that softening and liquidation took place in some of his cases under the course of toxin injections, without a previous operation, in the greater number reported a gradual absorption and disappearance of the tumor occurred. It might also have been different, had the patient not returned, with, in my opinion, an undoubted attack of erysipelas. Notable is the fact, that the disintegration and liquefaction had begun to take place, as substantiated by the foul sanious discharge, under this attack of erysipelas before the injection treatment had been resorted to, thus illustrating in this, my first case, the intense action of the streptococcus of erysipelas on malignant growths.

I am indebted to our friend, Dr. F. R. Zeit, for sending this, to me very interesting case, to the hospital for treatment, as also in establishing a correct diagnosis of the growth post operationum. The examination of the tumor proved it to be of the most malignant type, round celled sarcoma.

WE have a few copies of Buchanan's *Antiseptics and Antisepsis* left. Send us $1.50 and get a copy and the JOURNAL or send us two subscriptions and we will give you a copy.

The Etiology of Pleurisy, with Special Reference to Its Tubercular Origin.

BY DR. K. W. DOEGE, MARSHFIELD, WIS.

Read before the Northwestern Medical Association, January 14th, 1896.

Mr. President and Gentlemen:

The views that the medical profession has adopted of late in regard to pleural and peritoneal inflammations are strikingly different from those of former years. Especially is this so in regard to peritonitis. We have learned to look upon it as a symptom, and not as a disease. Whenever a case of acute peritoneal inflammation comes under our care we very earnestly and diligently search for the cause of the irritation. We interrogate the appendix to see if we can there locate the responsibility. We suspect the regions of the tubes and ovaries, those of the gallbladder, the stomach the sigmoid flexure, etc., and, having found the source of the trouble, we do not diagnose a peritonitis, but an appendicitis, salpingitis, a perforation of the stomach, as the case may be. Should our search prove futile, then there is a certain class of practitioners that would speak of an idiopathic, primary peritonitis, in contra distinction to that caused by microbic infection, and lay the blame to "catching cold," draughts and cold feet. The others, placing less confidence in their ability to always recognize the primary focus, rather doubt the idiopathic nature of the inflammation. In fact, as years pass by, the number of so-called idiopathic peritoneal inflammations grows smaller and smaller. Cases formerly called idiopathic are now found not to be so, and at present some authorities flatly deny the existence of such inflammations, and believe peritonitis, if not caused by traumatism, always to be due to microbic infection. While this view is undoubtedly held by the profession as regards the abdominal serosa, the same cannot, as yet, be said of the pulmonary serosa. I mean, while peritonitis, *per se* is gradually but inevitably being crowded out of our text books, pleurisy, as such, still has an unshaken hold on the profession.

Acute pleurisy, from an anatomical standpoint, is generally divided into two classes: 1, the fibrinous or dry; 2, pleurisy with effusion. Fibrinous pleurisy is divided, by Wilson in the Am. Text of Med., into primary and secondary: "The

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primary is that in which pleurisy occurs as an independent affection in persons previously healthy." (Wilson.) It is among these that the so-called idiopathic cases are looked for. First of all, let us try to gain a clear idea of the term primary pleurisy. In order to be primary it is necessary that the pathological process have its start in no other tissue but in that of the pleura. In order to be primary it must not be the result of an extension of an inflammation of the lungs, like in that which accompanies pneumonia. It must not originate from a cancerous or other growth. It must not be the result of tubercular deposits in the pleura, or of an infection from tubercular bronchial glands. It must not be found with infarcts, abscess or gangrene of the lung. In order to be primary it must not start in any part covered by the pleura, but must originate in the pleura alone. It may implicate adjoining structures, but must not arise there. While it is comparatively easy to say how a pleurisy must *not* originate in order to be primary, it appears quite difficult to state just what particular method of origin must exist. Pleurisy may follow traumatism in a person previous healthy. The inflammation may then arise in, and be limited to, the pleura alone, and must, therefore, according to our definition, be recognized as being primary. Yet the fact remains that it is secondary to the trauma. The serous membrane of the pleural cavity, like that of the joints, has the function of diminishing friction. In presence of irritant the surfaces react alike. In joints, we recognize a rheumatic arthritis. So, also, do we recognize a rheumatic pleuritis. Is this form primary? Strictly speaking, it is not. It presupposes a primary general infection, or affection, and, consequently, necessarily asserts itself only secondarily. It is extremely difficult to imagine a condition that would result in the formation of a primary pleurisy, unless you accept the rheumatic form as such. My belief is that primary, idiopathic pleurisy is, theoretically, unexplainable and practically not in existence.

The cases that, in practice, we are most inclined to denominate as idiopathic, and due to cold, etc., are, as a rule, the result of the activity of a far more serious agent. "Ziernsen, in an analysis of 54 cases of what he called primary pleurisy, did not ascribe one to cold." It is the bacillus tuberculosis that is accountable in the great majority of cases. "A large proportion of cases of dry pleurisy are now known to be secondary to tuberculosis or other microbic infection previously latent or undetected." (Wilson.) Autopsies, again and again, have brought to light tubercular deposits in the pleura of persons who, during life, were never suspected of tuberculosis. Such deposits, once formed, may remain silent forever, or may, after years of quietude, become the distributing point from which tubercular infection spreads to other regions. The frequency of a history of antedating pleurisy in persons that are affected with some form of surgical tuberculosis is striking and truly suggestive. A person may suffer from a mild form of pleuritic pain for a week or two, never be sick enough to go to bed, and never suspect anything more serious than an ordinary "cold," and yet may, during that time, have become the nidus of a tubercular infection, which may ultimately destroy him. No one doubts that tubercular deposits in the pleura may, after a certain time of activity, become latent. Tuberculosis may be present, yet dormant. If the area of deposit be large, percussion may elicit some dullness, and auscultation diminished vesicular breathing. If the area be small, physical examination may fail to reveal anything that would seem pathological, and only a post-mortem would tell the real story. How easy it would be in such cases to call them idiopathic, and that with some show of plausibility. Yet, it is only this sort of reasoning that prompts Keating to say, in his encyclopedia, that "the assumption that every case of pleurisy is tubercular is based on theory only, for the cases of chronic pleurisy and thickened pleura, carried many years without a trace of tuberculosis, are by no means rare." The fact that a large proportion of cases of pleurisy result in recovery is no argument against its tubercular nature, when we consider that tubercular peritonitis so often results in recovery, either spontaneously or after a simple abdominal incision. Of course, it is theory only, and will likely remain so for some time to come, because the mortality attending simple dry pleurisy is very small; but the probability of its tubercular nature is growing stronger from year to year.

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Secondary dry pleurisies I will discuss briefly. Their nature will depend upon their cause. They are mostly found in conjunction with, or following pneumonia; traumatic infections; cancerous or other growths; abscess or gangrene of contiguous structures; infections from various sources, especially fevers, and last, though not least, tubercular deposits in the pleura or tubercular bronchial glands.

While the evidence in regard to the tubercular origin of dry pleurisies is mostly circumstantial, leaving wide margins for doubt, and debatable ground unlimited, in cases of pleurisy with effusion, we should be able to furnish more positive support to our theory. And, luckily, we are in a position to do so. Let us make but two subdivisions of this class. 1, pleurisies with serous, and 2, pleurisies with purulent effusion or empyema.

1. Serous effusions. The etiology is similar to that of dry pleurisy, only the results are different, this depending upon the lower grade of inflammation, constitutional peculiarities, etc. The relation that later researches have revealed as existing between serous pleurisy and tuberculosis has recently been the subject of a paper by Prof. Eichhorst, of Zurich, before the Swiss Med. Society, and I cannot do any better than quote extensively from a résumé of this paper, as found in the *N. Y. Med. Record*, Nov. 9th, 1895: "The relation between serous pleurisy and tuberculosis should not be overlooked, because patients cured of serous pleurisy run a great risk of becoming tubercular later on. Bass has found that, at the end of five years, only 33 per cent. of such patients were still living. Failure to find the bacillus in the effusion, when examined microscopically, does not exclude tuberculosis. *Then*, recourse should be had to experiments. Eichhorst injected 15 drops of effusion into each of 11 guinea pigs; 10 remained healthy, and only 1 became tubercular. It then occurred to him that, possibly, the quantity injected was too small. He then injected half an ounce at a time. The result was tuberculosis in 65 per cent. of them. It must, therefore, be admitted that at least two-thirds of the cases of serous pleurisy are tuberculosis, and that recovery is but conditional. It was indeed a lucky thought that prompted Dr. Eichhorst to try larger injections, and how radically the figures have been changed by it.

"Double pleurisy, when not accompanying catarrhal pneumonia, makes us suspicious of tuberculosis or septicæmia." Hemorrhagic pleurisy is claimed by Loomis to be always tubercular.

A serous tubercular effusion may, of course, become infected by pyogenic microbes, thus forcing us to suspect, and recognize, even in some cases of empyema, the tubercular basis. Undisputably, empyema is always caused by microbic infection. The infective agent is not always the pyogenic micrococcus, the most common pus-forming bacterium. It is now a well-established fact that, besides these, many others are able to form pus. The most common infective microbes of empyema are the streptococcus, the pneumococcus, and the tubercle bacillus though, besides these, the staphylococcus bacteria has been found. The typhoid bacillus is known to have caused the infection and the saprophytic bacteria have frequently been observed, causing the putrid empyemata. Lately, Faitout, in the *Paris Med. Journ.*, alludes to a case of gonorrhœal pleurisy, with effusion, the authenticity of which seems to be well established, because cultures revealed the absence of any other bacterines but the gonococcus.

This brings me to the end of my paper, and, in summing up, I would urge the great importance of recognizing, in cases of acute pleurisy, except when due to traumatism, the following points:

1. It is due to some form of microbic infection.

2. Primary idiopathic pleurisy is theoretically unexplainable, and practically not in existence.

3. If accompanying a pneumonia, the pneumococcus is its cause.

4. The bacillus tuberculosis is the infective agent in by far the greatest number of other cases.

5. The frequency of a history of antedating pleurisy, in patients affected with surgical tuberculosis, is very suggestive.

6. The importance of giving a guarded prognosis, as far as complete recovery is concerned, should not be overlooked.

7. Besides the above-named bacteriæ, the staphylococcus, the streptococcus, saprophytic microbes, bacillus of Eberth, and gonococcus have been found in pleuritic effusions.

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8. The kind of microbe to which infection is due influences prognosis and treatment.

I cannot refrain from making a few remarks as to treatment in pleurisies with effusion, although in doing so I am aware that I am overstepping the limits of my paper.

That it is not wise to remove, under all circumstances, and at all times, serous, or even purulent, effusion, no one will doubt. By always keeping in mind the microbic nature of the trouble, a point in treatment that has been the subject of considerable controversy is decided very easily and satisfactorily. I refer to the necessity, or desirability of washing out the pleural cavity after operations for empyema, which is advocated by some and rejected by others. The kind of microbe present in the effusion, as determined microscopically, either before or at the time of the operation, will be the guide whether I shall wash out the cavity or not. The presence of streptococci or saprophytic microbes, pure or mixed, would absolutely require flushing, while those cases containing the tubercle bacilli, the pneumococcus, the staphylococcus, bacillus of Eberth, and gonococcus, if unmixed with any of the above, would not require a washing out of the cavity. By making this the guide to one part of the treatment of empyema, I am simply following the plan laid down by Schauta, of Vienna, who has applied it to his abdominal work, especially in operations for the removal of diseased appendages. My object in making this short suggestion was to show to what extent our theoretical dissertation may gain a practical clinical bearing.

GRAESER, of Vienna, believes that quinine is not only a specific in influenza, but that, if given at the proper time and in large enough doses, it will prevent an outbreak of the disease.

FRENCH surgeons have recently been using a solution of picric acid for the first treatment of burns, and it has been found that the pain which is caused by the burning of the skin can be almost immediately alleviated, or altogether removed by painting the affected surface with a strong solution of picric acid.—*Gross Medi. Bulletin*

POULET highly recommends the use of pilocarpine in large doses in the treatment of the pneumonia of influenza.

Translations.

A Case of Membranous Desquamative Urethritis.

The following rare case is reported by Arth. Aschner in *Wiener Med. Wochensch.*, 24 Aug., '95. * * * Epithelial desquamation of the urethral canal is rarely produced and the cases observed are generally connected with acute urethritis. Aschner's observation was a case of chronic urethritis in which the subjective symptoms were absolutely wanting, in which there was neither discharge nor gonococci. The endoscope showed sclerotic patches in the anterior urethra. The membranes were formed wholly of pavement epithelium; absence of pus. Otis' urethrometer verified that the mucosa had in places lost its elasticity and at these places, especially the epithelium, was seen to become altered from its normal characters and, from the cylindrical form as it was, changed to the pavement form. Becoming hypertrophied, it may at a given time—influenced by catheterization, caustics, etc.—be expelled *en masse*. This is especially liable to happen if the inflammatory process has extended over a considerably long, sufficient time.

Complete recovery of such a case is difficult; in Aschner's case a number of relapses occurred, when at length the patient seemed to be restored, thanks to the instillations of silver nitrate and argentamine. *Journ. de Med. de Chirurg. et de Pharmacal*, 1895, No. 39, 620.

H. P. W.

Corrosive Sublimate Poisoning. Death!

Prof. Bauemler exposed the following very interesting case before the Freiburg Medical Society:

A young medical student was sent to the pharmacy for six packages of antipyrine of one gramme each. The pharmacist made a mistake, and instead of the antipyrine delivered sublimate. Having received the packages the patient took one of them in a little water. Almost instantly he felt violent burning in the throat and stomach, began to vomit—at first alimentary, later bloody.

Prof. Bauemler saw the patient about two hours after the mishap. The patient was in state appoaching collapse, but had preserved full

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knowledge of his condition. He complained of pain in the stomach and vesical tenesmus. Exploration showed that the stomach was a little sore and the bladder was empty. The vomiting had not ceased entirely, and the cuspidor at the patient's bedside was filled with blood. Repeatedly there were dysenteric stools. Inspection of mouth and throat showed nothing special.

An injection, subcutaneously, of a centigram of morphin gave the patient a little sleep. The sleeping, however, was broken by repeated vomiting and diarrhœa. About 8 A. M. his condition seemed to improve; there was constantly great weakness, but the vomiting and diarrhœa had stopped, and the patient felt relatively pretty well. Temperature 36.8° C.

The improvement lasted three days; the pulse oscillated between 84 and 92, the temperature veered around 36°, 37° C. The vomiting was not again produced, but instead, the diarrhœa returned with sero-sanguinolent stools, analogous to dysenteric stools. The belly was lightly tympanitic, the stomach hardly sensitive. Vesical tenesmus had completely disappeared.

On the fourth day the picture suddenly changed. The patient became somnolent; examination revealed slowed respiration, irregular cold extremities, contracted pupils, mouth dry, tongue parched. The appearances pointed to opium intoxication, and yet the patient had only received a five centigramme opium suppository 24 hours before and that was retained only a short time. Moreover the patient affirmed not to have urinated since the day before. The bladder was empty.

Under the influence of excitants applied *larga manu* the condition was slightly improved, but during the evening the patient fell back into collapsus and died the following day.

On autopsy the stomach and intestines were found rather contracted than dilated, of normal color. In the stomach in front of the pylorus was an eschar 5 centimetres in diameter, clearly outlined, and of blackish color. The submucous tissue was œdematous, the serosa intact. Linear eschars starting from the principal eschar ran towards the cardia whose mucosa was simply red and tumefied. The œsophagus was congested, not at all gangrenous.

The lower portion of the ilium, the cæcum, the whole colon to the rectum were stricken with gangrenous enteritis.

The kidneys were voluminous and to the naked eye presented the lesions of parenchymatous nephritis; paleness of the cortex and columns of Bertin, injection of the pyramids, The bladder was empty. Nothing in other organs.

The peculiarities were, in this observation, absence of salivation, the early appearance of dysenteric diarrhœa and anuria, passive euphoria interrupted by the anuria, which led to death.

This passive euphoria has been observed in another case of poisoning by corrosive sublimate, published about twenty years ago by an English author. The absence of salivation has also been signalized before in six cases out of nineteen, collected by Woodman and Lidy.

Chemical examination of the eschares of the stomach permitted the discovery in those tissues of 0.155 milligrams of sulph. mercury=0.181 milligrams of mercuric bichloride; per contra, in 600 grammes of liver, kidney, spleen, the intestine with contents, gave only 0.001 to 0.015 milligrams of Hg.

Therefore, in this case, the intoxication resulted from the mercury deposited in the gastric eschars; and death probably was brought on by the nephritis.—*La Tribune Medicale*, 1895, No. 35, pages 688–9–90. H. P. W. *Tr.*

Ingestol.

The latest preparation put forward on the continent for a remedy for dyspepsia and other gastric ailments is said to be composed as follows: The "formula" is furnished by the manufacturer!

℞	Sulph. Magnesia,	1.5	
	Soda,	0.9	
	Potass, Calc., āā	0.1	
	Chloride Magnesia,	0.5	
	Sodium,	0.75	
	Carbonate Soda,	0.05	
	Lime,	0.025	
	Bromide Magnesia,	0.001	
	Acid Silicic, Oxide of Iron, Citrat of Iron Efferves., aa	0.001	
	Spts. of Ether,	0.05	
	Aromatised Water,	100.00	M.

The dose is from a half-teaspoonful to a tablespoonful or even a Bordeaux wine glass full. It

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may be given three times daily. It is no doubt a good purgative, and some very remarkable results are said to have followed its use in both male and female patients.—*Aumnaire Therapeutique*, 1895, pp. 300-1. H. P. W.

Phosphomolybdic Acid as Reagent for Uric Acid.

To the suspected liquid is added a few drops of phosphomolybdic acid (under the same form as it is used in testing for alkaloids), then add a few drops of liq. potass. there immediately forms, according to R. Offert (*Centralbl. fuer Physiol.*, 1895, 801), a dark blue precipitate of a metallic lustre, which is molybdate of the oxid of molybdene. When this takes place on the object-carrier under the microscope, small crystals of a darkish blue color will be seen to appear.

The addition of H Cl. or SO_4 diluted dissolves the precipitate; the resulting liquid is a limpid blue.

This reaction is obtained already in a liquid containing only traces of uric acid; but as albumin gives a similar reaction with phosphomolybdic acid the absence of albumin in the urine must be ascertained previously.—*Chem. Zeitung*, 1895; Rep., 156; *Pharm. Centralbl.*, 1895, 25, p. 258; *Bull. Gen. de Therap.*, 1895; *Aumnaire*, 1895, pp. 297-8. H. P. W.

Scarlatina Transmitted by Letter.

Grasset reports the following very interesting fact of contagion of scarlatina. A youth perfectly isolated, whose parents resided far away, received a letter in which was contained, as a curiosity, very large fragments, one of which was four centimeters in diamater, of epidermis, from a sister who had scarlatina. Infection soon followed the opening of the letter; scarlatina resulted.

Sanné reports a similar case: A dame living in Germany, writes to two persons, mother and daughter, living in Brittany, relating in her letter that she is convalescent from scarlatina, and that her skin desquamates so much that she is compelled to shake her paper several times, whilst writing, to get rid of the pellicles which fall on it in profusion. Both mother and daughter were attacked with scarlatina shortly after, both very seriously and the former died of scarlatina.

Grasset adds that it were very desirable, that physcians who well know the danger, from these epidermic debris, warn their patients and surroundings to avoid this mode of contagion and create rigorous isolation around every subject attacked.—*Jour. de Med. de Churirg. et de Pharm.*, 1895, 640. H. P. W.

Adhesol.

This new antiseptic flexible covering and protective for surgical uses in wounds is, according to Patein, composed of the following ingredients;

Capal Resin,	350	Gm.
Benzoin,	30	"
Bals. Tolu,	30	"
Æther Officin,	1000	"
Ess. Thymac,	20	"
Naphthol a,	3	"

divide the resin sufficently and macerate for two days in the mixture of ether and essence; filter and then add the naphthol.

Adhesol is a clear, amber colored, thin liquid of agreeable odor, neither caustic nor toxic. It dries in a few seconds leaving a souple colorless pellicle on the skin, and a very adhesive membraniform layer on the mucosa. Its fluidity makes its application very easy. The addition of naphthol is very fortunate—substituting an energetic and inoffensive antiseptic for phenic acid, which is often caustic.

Adhesol has been successfully employed as a wound-covering by many French surgeons. Any pharmacist can prepare it.—*Bull. Gen. de Therapeutique*, 1895, No 33, p. 169.

H. P. W., *Tr.*

Antidotes in Acute Poisoning.

Lewin gives a succinct outline on acute poisoning in *Geneesekundige Courant*, 15 August, 1895, "*De eerste hulp bij vergiftingen.*"

1. Empty the stomach at once by emetics or lavage; to eliminate the poison as rapidly as possible from the system.

2. Transform the poison chemically as much as possible, in order to reduce its toxicity or make it inert momentarily or altogether.

3. Repair by means *ad hoc* the troubles caused in each organ and in the organism in general.

These means must be employed even in cases

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in which the toxic effects are already quite manifest, in order to remove the poison remaining, which might be absorbed. The same obtains when the poison was introduced subcutaneously for it may be eliminated by way of the stomach, viz.: Morphine, iodine, etc.

Lavage is the best means, match-heads, Schweinfurthgreen, are apt to adhere to the gastric walls; vomiting cannot wholly remove these sticky toxic substances from the stomach.

Add the antidote indicated to the liquid used for lavage every time the toxic agent in poisoning is known.

Antidotes: In poisoning by phosphorus use a solution of cupric sulphate; by phenic acid, a solution of sodic sulphate; by salicylic acid, use lime water; by lead acetate use zinc sulphate; by chromic acid, use diluted solutions of lead salts.

Then aspirate the insoluble precipitates.

When gastric washing is impossible, emesis must be induced.

Proscribe oily or fatty matters or hot water as emetic. They facilitate absorption of the poison, especially so—hot water.

The best emetics are: 1st. Mustard flour diluted in H_2O—8 to 10 grammes to a glass of water.

2d. Cupric sulphate (1 gramme).

3d. Hydrochlorate apomorphin .02 hypodermically.

When the poison is already partially in the intestine use 10 to 20 grammes of *Sel de Seignette* in a glass of water. This salt is especially useful in poisoning by plants, grains and flowers, whose absorption is mainly through the small intestine.

When the poison has entered the blood current all these means will be useless. In these cases the salivary, renal and sudoriparous glands must be stimulated to hasten their secretory power.

As to chemical intervention, the author indicates alkalies as antidotes to acids and *vice versa*. The antidotes have been named above.

Nothing proves that a poison in the blood current was ever completely neutralized by its antidote.

Assist by appropriate means:

1. Advanced feebleness of the heart.
2. Respiratory troubles; disturbed rhythm.
3. Commencing cerebral paralysis.
4. Convulsions; and
5. Notable alterations of the red blood globules and hemaglobine.

In the first case exciting lavements, such as ammonia (30 drops to two glasses of water), alcohol mixed with sol. gumarabic, etc., etc.

Hot compresses over the pericardial region are powerful heart stimulants locally; artificial respiration in respiratory troubles or disturbances [rhythmic tractions of the tongue as taught by La Borde is very useful in flagging respiration—*Translator*], *never allow inhalation of ammonia in syncope, or intermittent respiration*, it may act unfavorably by producing glottic closure and totally suppress breathing.

In cerebral paralyses depending on precited troubles, or may be due to cerebral intoxications, apply excitants to the skin, mustard plasters on soles of feet, nucha, epigastrium; and ambulatory movements of patient by properly supporting him. Subcutaneous injections of musc., etc.

Anæsthetics in convulsive movements.

In blood alterations the author advises bleeding which relieves the heart. Circumstances permitting make an injection of Na Cl. at 0.6 per cent., double the quantity of blood removed.

In no other condition does the physician require more presence of mind, forethought, positive science, for iminent danger threatens the patient's life.

His base of conduct must always be rapid elimination of the poison to expect a favorable result.—*Jour. de Med. de Chirurg. et de Pharm.*, 1895, No. 41, pp. 645-8. H. P. W., *Tr.*

Bicarbonate of Soda for Ordinary Colds.

Dr. L. Duncan Bulkley strongly recommends the use of bicarbonate of Soda in the treatment of ordinary colds. He gives 20 to 30 grains dissolved in two ounces of water every half hour for four doses. If this does not relieve the symptoms, he waits two to four hours and gives another four doses in the same manner. It is rarely necessary to repeat this more than once or twice.—*Pediatrics*.

THE Wisconsin College of Physicians and Surgeons hold their Commencement Exercises on March 24.

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MILWAUKEE MEDICAL JOURNAL.

A Monthly Journal of Medicine and Surgery.

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The X Ray Excitement.

Milwaukee is permeated by the Roentgen ray excitement. Several experimenters are at work with their tubes and coils and we hear them discuss volts, amperage, sparks and fluorescence with all the glibness of Edison or Roentgen himself. That much of this experimentation is valueless as far as practical results are concerned "goes without saying" as the Germans put it, yet it should not be discouraged, for it holds the promise of great aid to diagnostics.

Doctor H. M. Brown has succeeded in finding a bullet in a man's leg besides making the ordinary sciagraphs of coins, lead pencils, etc.

***

Close on the heels of the discoveries made is the suggestion that the X rays contain that element or elements of sun-light which are death to micro-organisms and experiments in the line of this suggestion, are about to be tried. If these be successful it will be but a step to revolutionize therapeutics and we will have sanitariums and hospitals fitted up with Crooke's tubes where patients will have nothing more to do than bask in the subtle fluorescent light. Truly an ideal treatment and enticing withal. Then would be the day of the bacteriologist and electrician, while the plain practitioner's services would hardly be required, except to attend a case where there is no suspicion of pathogenic germs, or to be master of ceremonies at the ushering in of a new life.

***

Whether any therapeutic value be found or not in the rays, it is to be expected that unscrupulous men can seize with avidity upon the discovery as a means to still further impose upon the credulous. The world, as far as gullibility is concerned, changes little, and Roentgen rays with attributes clothed in scientific terms are as efficacious means to the end as Perkins' tractors or the mystic performances of Mesmer. With all our boasted civilization the bright white light of science has penetrated but a short distance into the dense fog of superstition, and the heart of hearts of the masses still cherishes beliefs popular generations ago and is secretly, if not openly, swayed by the same impulses. While learning is generally diffused in this country it is not of the kind to enable men to sift the true from the false, and presupposing a scientific knowledge on their part tickles their vanity to such an extent that they fall an easy prey to any medical sharper who can bombard them with technical terms, no matter how little relation to fact they may have.

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As is so frequently the case, the discovery made by Roentgen and verified by others, is but half a truth after all. It has now been conclusively demonstrated by the professor of physics in the South Side High School, that Crooke's tubes are not at all essential to the production of shadowgraphs. By the use of a U magnet, with a lifting power of seventeen pounds, he has been able to get as pronounced negatives as with the X rays and this, too, in absolute darkness. As numerous experimenters are enthusiastically working along these lines, it is reasonable to expect still further developments, and out of it all will come

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something which can be laid hold of to our practical advantage, besides increasing our knowledge of nature's laws.

College Rowdyism.

An epidemic of rowdyism is apparently pervading the colleges of the country, limited, practically, to the literary institutions. In one school in Ohio we read of young men and young women of different classes indulging in a most unseemly row in which disfigured countenances and tattered garments figured conspicuously, not to speak of several knocked unconscious and more or less seriously injured. In another school two or three deaths resulted from a fight over so trivial a matter as class colors, while down in Illinois a regular riot ensued over a like trifle. Nor have medical schools been altogether behind in the brutal rowdyism. Reports reach us of a bloody affray in the P. and S. of Chicago, a highly respectable institution. Out in Kansas, students were implicated in that most heinous offense, grave robbing. All of these things certainly show a low standard of manliness existing among young men, and a decided lack of discipline in the institutions where these reversals to the brute type are permitted. It would be of interest to know just how much of influence the tendencies of our schools have in bringing about this deplorable condition of affairs. While heartily in favor of athletics normally indulged in, we have, for some time, noted with alarm the tendency towards over-training and specialism in the various athletic branches. While the over-development of some particular groups of muscles does not of necessity brutalize a man, still the strife of competition has that tendency, as has also the partisanship which of necessity pertains to competition. Each clique, each class, has its athletic hero—its favorite nine or foot-ball team, whose prowess must be vindicated against all comers. Boasts must be fortified by bets, and gradually all the brutalizing influences of gambling leave their impress on the plastic mind. The worship of the hero stimulates to actions calculated to be in keeping with the qualities of that individual, and the youthful "freshie" or verdant "soph," decorated with class colors, cane and extravagant hair, walks about with a chip perpetually on his shoulder. He is ever ready for a fight, and frequently gets it, and, if worsted, retires only to meditate on plans for revenge. Thus the brute instinct is carefully nursed and develops to amazing ferocity.

College authorities must restrain these tendencies, for the time is come when thinking parents will consider seriously where to send their boys and girls. Surely they will not send them where, instead of having their minds trained in that knowledge and virtue which makes broad-minded, elevated men and women, they will run the risk of returning to them with the manners and instincts of "toughs."

Healers.

Another layer-on-of-hands has made his appearance, attracting crowds and performing wonderful cures. This time the "Healer" makes his "debut" in that center of conservatism and learning, Massachusetts, thus showing that people of the "wild and woolly West" are no more impressionable than the "staid mossbacks" of the East. That this man will do some good is to be expected. According to a conservative Denver physician, many of Schlatter's cures were authentic. There is in every community a class of cases which ordinary medical treatment fails to reach, and it is that class which is benefited by faith healers and the like. They are usually neurotics and suffer functionally. It is with this class that the "perturbating treatment" of our fathers is successful. Something must be done to shake them out of their usual succession of sensations, and a strong disturbance of the emotions is often most effectual in accomplishing this. It doesn't matter a great deal what agency "perturbates," so long as the patient is sufficiently "perturbated." The cure is the end looked for.

THE Northwestern Wisconsin Medical Association holds its next meeting on the second Tuesday in April at Wausau. These meetings are always of a high order of interest and merit large attendance.

QUITE an elaborate programme has been planned for the Milwaukee Medical College Alumni, including clinics, papers, etc.

THE Leeuwenhoek Society gives its annual banquet March 21st at the Aberdeen.

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News and Miscellany.

SOME good people have been greatly stirred up on account of alleged cruelties in the practice of vivisection at the Milwaukee Medical College. The "cruelties" when investigated proved to be groundless, but as long as vivisection is practiced there will be some one to antagonize it.

THE St. Louis Medical Colleges are "having troubles of their own." What with the State Board and alleged dishonest officials, everything isn't lovely down there.

OUR health authorities and Gregorovitsch, the hypnotist, have been having a set-to limited to talk. The result of it all is a lot of free advertising for the hypnotist.

THE Milwaukee Medical College is contemplating increasing its hospital facilities as well as providing an additional lecture room.

THE Minneapolis College of Physicians and Surgeons has become the medical department of Hamline University.

MILWAUKEE MEDICAL COLLEGE holds its second commencement March 24th, at the Pabst Theatre.

The Sweet Singer Who Sang the Songs of Childhood and the Lullabies of Baby-Life.

The death of Eugene Field, or "Gene Field" as he was called by nearly all who knew him well, in the prime of life, was a great loss to literature. The fact that he was a product of St. Louis, having been born and reared here until he reached manhood's estate, renders him of special interest to those of us in St. Louis. No one who ever met him can forget his interesting face, his free and easy magnetic personality.

The papers have been filled for many weeks with incidents and amusing anecdotes connected with his life. After arriving at maturity he spent many months in St. Louis connected with the daily press, and no more rollicking, royal, whole souled reporter ever scratched the pencil or slung ink to fill his allotted space. He subsequently did newspaper work in Denver, Kansas City, St. Joseph, and for many years has been engaged in such work in Chicago. Many pleasant memories are scattered all through Missouri closely related to his student life in our State University. His father was one of the most commanding barristers that Missouri ever had and was an intimate personal friend of many prominent men connected with the medical profession, indeed the intimates of the elder Field were eminent medical men almost uniformly, so that Eugene Field by heredity and association was in a position to appreciate the medical profession, and nearly all of his later literary lines, which will live through all the coming years, are devoted to that part of life which is really the most attractive to the physician, namely, child-life.

Of the many tributes to the sweet singer, none are more true or more beautiful than that written by the brilliant Bohemian of the *Sunday Mirror*, William Marion Reedy.

We present it herewith:

EUGENE FIELD.

The sweetest Western singer sleeps,
Stilled by Death's lullaby.
O'er babyland a sorrow sweeps—
A gloom across the sky.
He did not seek the starry steeps
And windy heights of song,
But strolled and sang where baby creeps
His toys and dreams among.

He coined in rhyme the Age of Gold,
Translated toddlers' tears;
To music making hearts grown cold
Warm back to happy years.
His heart was full as heart could hold
Of Love's own gentleness.
He taught sour age to sooth, not scold;
He caroled Christ's caress.

The Laureates of the Little Ones,
The lark of the childhood's dawn,
The King of Quips, the Prince of Puns,
Youth's Owlglass; thou'rt not gone!
E'er yet thy frolic fancy runs,
With fairies frisks its fill,
In days to be, 'neath senile suns,
Thy soul goes singing still.

—*William Marion Reedy.*

Eugene Field had promised to furnish General John B. Hamilton, Editor of the *American Medical Association Journal*, a special poem descriptive of the doctor's life. It was Dr. Hamilton's intention to have had it liberally illustrated and Field was planning in his mind the play of the lines. Indeed he had expressed great enthusiasm in the work, feeling that it was an opportunity for him to delineate the doctor as he had met him and as he knew him, an ever faithful and devoted friend of his patients. By association and general equipment he was in good form to have presented a product which would have marked an epoch for the medical profession in a literary way, and I venture the opinion that the subject was one so filled with interest and general attractiveness that the work which was being planned so enthusiastically would have been the literary cap-sheaf of

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his life, one arousing the interest and the appreciation of the entire medical world. So that his sudden and untimely death was more than ever a calamity to the lovers of true sentiment.

Yes, the laureate of the little ones is gone, but his lullabies will be sung as long as men and women love their loves and worship their products.

This brings up the thought that he who loves children warmly, passionately, cannot be other than a good man.

Willard, the actor, in conversation regarding one of his plays, gave expression to the thought that the most cunning and skillful devotee to crime frequently plays in sneaking way his slimy schemes by cultivating an ability to play upon the confidence of children, by entertaining them and being companionable with them and thus reaching the innermost hearts of those who love them, entering indeed into the most sacred chambers of the same, often resulting in the successful accomplishment of their designs. I had supposed and tried to believe that the intuitions of children were so keen, correct and safe to be trusted that they could not be deceived, and yet I know that I was wrong and Willard was right. The child is a crystallized expression of innocence, of trustfulness, of love, if he is given half a chance, and the glittering toy or luscious bonbon in the hands of the designing and even unattractive creature can lure the little one away from the paths of affection and safety, and while one cannot have too strong words of praise for the one who loves children for their own sake and cultivates them for the pleasure of giving them pleasure and happiness and contributes to the permanent fund of their amusement, words are not severe enough to express the condemnation of the individual who would sneak and slide into the successful accomplishment of his selfish designs through prattling babies or attempt to apply to himself the text, "and a little child shall lead him."

The true, honest lover of and delver for the happiness of child life should occupy a high position in the esteem of all men, and the other should be sunk as low as it is possible to be, even, beyond the depths of sound, or sight—*Ed. Med. Mirror.*

Reprints.

CASTRATION for Hypertrophied Prostate.

NEURALGIA of the Fifth Nerve.—Treatment.

INCREASING the Length of Bones.—Translation.

OBLITERATION of Congenital Pigmentations.

COLIOTOMY and the Kraske Operation.—(Typhoid Ulcer; Perforation (?); Operation; Death. Cerebral Cyst; Operation; Recovery.)

RUPTURE of Left Lateral Ventricle.

FLAT-FOOT.—Its Correction and Comparative Study with the Foot of the Orang, Chimpanzee, Gorilla and Baboon. (Illustrated by photos.)

LUPUS Treated by Galvanism. (Illustrated.)

DOUBLE Club-feet and Hands. (Illustrated by photos.)

REMOVAL of Head of the Femur for Tubercular Disease.

A VERY Interesting Case.

SPECIMENS Demonstrating the Operation of Gastro-Cholecystotomy, end-to-end Anastomosis of gut, and the connecting of the gall-bladder with the Alimentary Tract as performed with the Murphy Button, and by the Mannsell Operation.

HEMORRHOIDS; Prolapsed Rectum; New Operation.

NIAGARA'S Water Power.

CASE Reports. April, '94.

CASE Reports. November, '95.

REMOVAL of the Head of Femur from the Lesser Sciatic Notch.

A VERY Interesting Case. All by E. Merrill Ricketts, Ph. B., M. D., of Cincinnati, O.

TREATMENT of Fractures of the Lower Extremities in Ambulance. By Alex. C. Wiener, M. D., of Chicago, Ill.

NEPHRITIS of the New Born. By A. Jacobi, M. D., New York.

"WITHIN the last month or two we have used the Wine of American Ash, from the well-known firm of Theodore Metcalf Co., quite extensively in menstrual irregularities, such as inflammation, leucorrhœa, etc., with very satisfactory results. The surgical craze in the treatment of diseases of the female pelvic organs has prevented, perhaps, many of our best physicians from studying as carefully as they should, the medical side of the question. Dr. Skene's recent work on 'Medical Gynæcology' will, no doubt, do much to bring the pendulum back to a happy medium. Along with the Wine of Ash, especially in the poorly nourished patients, we have used with great benefit, Burnett's Cod Liver Oil, one of the best preparations on the market."—*The Denver Medical Times*, May, 1895.

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Selections.

Intra-Tympanic Massage and Vapors in the Treatment of Chronic Aural Catarrh.

By H. V. WUERDEMANN, M. D., MILWAUKEE, WIS.

Director Wisconsin General Hospital; Oculist and Aurist to the Children's Hospital; and to the Milwaukee County Hospital for Chronic Insane; Instructor in Eye, Ear and Throat, Elms Hospital; and to the Milwaukee County Training Schools, Etc.

Read in the Section on Laryngology and Otology, at the Forty-fifth Annual Meeting of the American Medical Association held at San Francisco, June 5-8, 1894.

In the light of our present knowledge it seems that the conservative treatment for chronic catarrh in the middle ear is most generally applicable and that radical surgical procedures should be confined to the cases in which simple measures have been of no avail, where on account of decided sclerosis with distressing tinnitus, vertigo or stenosis of the Eustachian tube it may be necessary to immediately relieve tension or obtain drainage. It must ever be borne in mind that treatment applied directly to the tympanum and tube is but a minor part, and that the chief efforts of the surgeon should be directed to removal of the cause, which usually lies in intra-nasal or pharyngeal disease in these cases. Besides local attention to these cavities, the patient generally needs instruction as to his methods of living, clothing, ventilation of living rooms, etc.; frequently internal medication is of much service.

The routine treatment of the middle ear and Eustachian tube most in vogue is by inflation with the Politzer bag. Some surgeons use medicated vapors and nebulized fluids of various kinds, forced into the middle ear through the catheter by a hand bulb. A few have the compressed air apparatus. Others use passive motion or massage, by the Siegel otoscope, or directly by the cotton tipped probe. The electro-vibrator, the phonograph and the ordinary hearing tube have their advocates. All these act in much the same way by loosening or breaking down adhesions and increasing the nutrition of the membranes.

Among other measures I have found for the majority of cases a combination of massage and the vapor treatment to be best, and for a number of years have been using vibratory massage through the catheter and Eustachian tube in the following simple manner, obtaining thereby the effects claimed by advocates of other forms of treatment: A compressed air apparatus is necessary. (I get great satisfaction from a plant consisting of an air receiver and automatic pump run by city water pressure, which I have used three years, during which period it has required practically no attention.) Either a regulating water valve allowing the pressure to remain at a certain point or a regulating air valve (such as is manufactured by the Owens Brass & Copper Works of Chicago) must be used, as accurate dosage of the air-pressure is necessary. The compressed air passes through the medicating apparatus (nebulizer or vaporizer) and is conducted to the mouth of the catheter by an ordinary five millimeter diameter pure gum tubing. The air valve is turned on at the required pressure and the tubing at the catheter compressed about every second by the thumb and forefinger, producing an interrupted current, which gently and thoroughly massages or vibrates the lining of the Eustachian tube, the drum head and the ossicles, loosening the joints, breaking up adhesions and increasing the nutrition of the lining membrane, at the same time that the medicated vapor is brought thoroughly in contact with all parts of the tube and tympanum. At first this process is repeated daily for five to ten minutes at each sitting for either ear, and afterwards every other day until no further improvement in the hearing or subjective symptoms results; occasional after-sittings being indicated and in many instances the patient being taught the use of the Politzer bag. The course of treatment involves a dozen to a score or more of sittings.

The air pressure at the meter is usually fifteen to twenty-five pounds; it being my experience that such is as much as it is safe to use through the catheter. By the time it reaches the tympanum this pressure can not be more than a couple of pounds. Bishop,[1] of Chicago, and others claim to use an air pressure of sixty to eighty pounds, and that this may be safely borne by a drum head. I shall not forget the fact that I have personally ruptured a tympanic membrane by simple inflation with the Politzer bag, which in my hands does not afford an air pressure of over ten or twelve pounds. In the discussion of Dr. Bishop's paper,[1] read before this esteemed gathering two years ago in Detroit, Dr. Richardson of Washington related two cases in which he had seen the same result from Politzeration. Others, no doubt, have had a similar experience. But Dr. Bishop uses an extremely small quantity of air at a very high pressure and distinctly states that the *higher the pressure the less the dosage* of the amount of air. It stands to reason that a small

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quantity of air at a high pressure would produce less of a mechanical effect than a large quantity at the same pressure; also that a large quantity of air at a low pressure would produce a similar effect to a smaller quantity at high pressure. For by the time that the little puff of highly compressed air that Dr. Bishop lets out of his receiver reaches the middle ear, its volume has increased and the consequent pressure diminished to but a few pounds. He expressly states that without a meter to guide the accurate dosage of the air the "high pressure apparatus would *not* be safely reliable for ear treatment."[1]

A continuous stream of ten to twelve pounds (not more than fifteen pounds) may be safely passed through the catheter into the middle ear, provided that the beak of the catheter be not impacted in the orifice of the Eustachian tube, preventing a free return of the vaporized air. We must remember that shortly after the introduction of the Eustachian catheter, away back in 1838, one Dr. Turnbull, of London, had an "accident" from a compressed air apparatus resulting in an autopsy and a coroner's investigation upon the body of his patient.[2] Others have since occurred. Interrupted currents of slightly greater pressure and only minute quantities at a high pressure can be safely given.

A recent article[3] by Dr. G. F. Hawley speaks of forcible dilatation. The high pressures claimed to be used in his cases are naturally made much less by the manner of administration and the effects of the "shunt" current and the drum head must certainly be less than ten pounds to the square inch. He gets massage of the Eustachian tube and middle ear and the interrupted current by vibration of the soft palate. This vibration is extremely disagreeable to the patient, and the pressure in such cases as have atrophied palates may be enough to strain them, with natural consequences.

As regards the various vapors[4] I still adhere to the camphor-iodin mixture for the majority of cases requiring stimulating treatment; have practically given up the nascent muriate of ammonia so highly advocated by Politzer;[5] get good results where there is tinnitus aurium by mentholized air, (in connection with freezing the mastoid by rhigoline spray as advised by Seiss[6]), all used in the Owens' vaporizing apparatus, or in the Globe inhaler, or in a bottle similar to the ordinary powder blower (ten or twelve pounds pressure) the compressed air being charged by being first passed through the medicament. Camphor-menthol in albolene or benzoinol is used in the modification of Buttle's inhaler (this being useful for mentholizing or iodizing air also) at high pressure, twenty-five to thirty pounds, or in the "Globe nebulizer" at a lower pressure, ten to twenty pounds. Nitrate of silver solution in water may be used in any of the three. (A newly made silver solution in alcohol can be best used although it soon decomposes.) Any soluble medicament may be used in the nebulizer or in the Bishop inhaler. Personally I use but the camphor-iodin, mentholized air, or thymol with eucalyptol and camphor-menthol in benzoinol. Nitrate of silver is used only to the Eustachian tube and is preferably injected through the fenestrated catheter and blown in by the Politzer bag.[7]

In conclusion, I will state that in about one thousand cases of chronic aural catarrh on my books for the last five years I have been able to cure nearly all in those instances where the patient submitted to the required number of sittings, in which the disease had not advanced beyond slight diminution of hearing; to apparently stop the process where sclerosis had set in, and to improve but not entirely restore the hearing; while in advanced cases the subjective sounds have been mitigated and slight permanent improvement in hearing afforded in the majority of instances. There have been some total failures as regards medical treatment and in some of these surgical procedures were tried but with a like result.[8]

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1 Bishop, S. S. Compressed Air and Sprays in Diseases of the Nose, Throat and Ear. Trans. Amer. Med. Asso., Sec. Laryngol. and Otol., June, 1892.

2 Editorial, London Lancet. Vol. ii, p. 558, 1838.

3 Hawley, G. F. A New Apparatus for Nebulizing Non-volatile Medicaments. Jour. Amer. Med. Asso., May 12, 1894.

4 At the request of several hearers of this paper the formulas commonly used in connection with this treatment are here appended.

1. For simple aural catarrh or Eustachian salpingitis:
   ℞ Benzoinol (W. H. S. & Co.'s)..... ..... 100.
   or
   ℞ Thymol..... .50
   Eucalyptol (Merck's limpid)..... .... 1.
   Benzoinol (W. H. S. & Co.'s) .....100.

2. Where attended by much tinnitus aurium the above, or:
   ℞ Camphoræ res 2.50
   Menthol cryst 2.50
   M. Triturate until clear oil forms; add benzoinol ad. q. s. 100.

3. In sclerosis:
   ℞ Mel. cryst. iodin..... 1.
   Kalii iod..... 8.
   Glycerinæ .... 30.
   Aq. camph. ad. q. s.. ....100.
   M. Add lump camphor .... 4.

5 Politzer, Adam. Ohrenheilkunde, 1889.

6 Seiss, R. W. Treatment of Tinnitus in Aural Sclerosis. Annals Ophth and Otol., Jan., 1894

7 Würdemann, H. V. Remarks on the Treatment of Proliferous Inflammation of the Middle Ear. Jour. Amer. Med. Asso, April 18, 1891.

8 Würdemann, H. V. The Operation for Excision of the Ossicula in Chronic Aural Catarrh with Instance of a Failure. Trans. Amer. Med. Asso., Sec. of Laryngol. and Otol., 1892. Jour. Amer. Med. Asso., Oct. 22, 1892.

—*Journal of the American Medical Association.*

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Brain Surgery for Epilepsy.

By B. Merrill Ricketts, M. D., Cincinnati.

Read before the Detroit Medico-Literary Association, September 16, 1895.

While the results from operations for epilepsy have not been as gratifying as hoped for, enough has been accomplished to justify operative interference in any case. This statement is made without reserve until we know more about the etiological and pathological conditions of the disease.

The causes of epilepsy are no doubt numerous. That trauma at some time in the course of life is the most frequent and important factor in causing the disease, is, I believe, a foregone conclusion. This being true, surgery, and not medication, is indicated, and, as surgical interference does not aggravate the disease, it is doubly justifiable, as nothing but the opening of the cranium will determine the condition within it.

We have conclusive evidence that certain traumatic cases are entirely relieved; the relief of insanity due to traumatism is also established.

That pachymeningitis is a frequent cause cannot be questioned, especially in the offspring of syphilitics. Inherited syphilis and tuberculosis are perhaps equal in frequency in causing adhesion of the meninges. The probabilities are that syphilis is oftener the cause of meningitis, and consequently epilepsy, than it is supposed to be.

The lesion once located, there can be no question as to the propriety of attacking it, whether in the cerebellum or hemispheres. Recovery following the removal of tumors and fluids of all kinds is possible. Perhaps the most remarkable case illustrating what can be done in the way of removing fluid from the cerebellum is that recently operated upon by Dr. Parker, of Cleveland, where four ounces of fluid were removed and followed by recovery. Operative interference is also justified in cases of hemorrhage from any cause, whether extra or subdural, or within any portion of the gray or white matter, symptoms, of course, governing the time and extent of operation.

The most treacherous circumstances surrounding a patient are in injuries of unsuspected fractures; this class of head injuries is therefore the most misleading. In reality, the cranium should be exposed for a thorough examination in all cases of head injury, whether or not the scalp be contused. The slightest bone fissure is sufficient evidence that the dura should be reached and brought to view, whether there are cerebral symptoms or not. The enlarging of a fissure, even though the result of the exploration be negative, is safer than allowing the intra-cranial conditions to go unobserved.

Three cases are herewith appended, each of which has its individual and exceedingly interesting characteristics.

CASE I.

Male, white, eight years old, fairly well nourished, with a somewhat undeveloped right brain. His physical and mental condition normal up to the end of his second year; at this time he fell backward in a convulsion without any apparent cause; the convulsions continued in frequency and severity, and while his physical development continued, his mental faculties became at once impaired; he never learned to talk, and was without reason. This state of affairs continued, with all sorts of medication, he having been placed under the care of several of the most prominent physicians of this country. He would eat or drink anything, having the habits of the ordinary imbecile, and would give no warning of any natural demands.

Without offering any encouragement to the parents, but at the same time believing it a duty, after observing him in several convulsions, that portion of the cranium overlying the psychomotor area was removed on May 20, 1895. The right dura was very much thickened and firmly adherent to the entire surface of the skull. The adhesions were relieved in all directions with a long, thin, narrow spatula. There was a very considerable amount of straw-colored fluid that escaped from the arachnoid cavity. The cutaneo-periosteal flap was sutured with silk-worm-gut, with some of the same material protruding for drainage.

A circumcision was made on June 1, and a right herniotomy on June 7 following, the object being to place him in as good a condition as possible when sent to an asylum, if that were found necessary. The herniotomy did away with the necessity of wearing a truss, which was exceedingly objectionable in the care of the patient. After the operation for hernia it was found necessary to give morphia occasionally, as he was restless to such a degree as to make it necessary to keep him in a straight-jacket.

He left the private hospital on July 1, not having had a convulsion since the second day after the operation upon the head. A letter from his father, dated July 14, states that "he goes to bed

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from eight to nine of his own accord and of his own pleasure, and sleeps soundly until about seven next morning. He is neither tied nor held, and is quiet and never utters a scream of any kind. The epilepsy, or any semblance of it, has entirely disappeared; he is gaining in strength and flesh, and if the boy gains as much in the next three weeks as he has in the past three weeks I would not be surprised to see him holding a partially intelligent conversation. The change in him is most miraculous, and the people in the neighborhood and our own family are beginning to have great hopes of his regaining his mind partially, if not entirely."

About the 18th of July, while on a visit to a neighbor with his mother, he ate some "Rough on Rats," which was mixed with sugar and lying on a saucer on a table for the destruction of flies. He died at the end of three hours—rather an abrupt ending as compared to the last two months of his life.

Although the condition of the child was very much improved, his case is one of speculation as to what the result of the operation would eventually have been.

CASE II.

Male, aged fourteen, white, American, fairly well nourished and developed, head slightly non-symmetrical, mental condition fairly good, prepuce very much elongated and penus appeared to be that of a masturbator. He had taken various remedies in the way of medication without any special avail.

Being admitted to the hospital on June 10, an opportunity was given the attendants to observe him in several attacks, all of which were severe and preceded by a loud scream, the spasm lasting from four to six minutes. There was general trembling and rigidity of all the muscles; the legs were both drawn to the right side, the left being nearly straight but adducted; the right was slightly flexed and more rigid than the left; the left arm rigid but straight; the right arm flexed, forearm on arm and under fingers to the limit; the head was drawn backward to the right; eyes to the extreme right and pupils widely dilated. This was about the condition found in each of the convulsions observed during the seven days he was in the hospital before operation.

On June 17, in the presence of Drs. Heady and French, the attending physicians, a double craniectomy was made with mallet, chisel and forceps. The opening upon the left side was three inches long and two inches wide, while that upon the right side was four inches long and two inches wide, both antero-posterior, leaving the cranium in the median line about an inch and a quarter wide over the longitudinal sinus. The dura was adherent throughout, necessitating the use of the small spatula to detach from the skull. The dura was divided transversely, leaving bands of it one inch in width. In this way no hernia of the brain substance could result, while at the same time a thorough exploration of the adjacent tissues could be made. The integument and periosteum, which included all the vertex, was brought from behind forward; it was replaced and sutured with silk-worm-gut, a few threads being left for drainage. A simple collodion and gauze dressing was applied. He had six severe convulsions from the time he was operated upon until he left the hospital for home.

October 21, 1895. Dr. Heady states that patient is no better, the convulsions continuing with about the same frequency, but that the boy admits to having indulged in masturbation just prior to each epileptic attack.

CASE III.

Male, nineteen, white, six feet tall, weighing 160 pounds, and of most excellent habits.

On April 1, 1893, he was struck on the frontal bone by a 32 long pistol-bullet at a range of about three feet; the point of entrance was one and a half inches above the orbital prominence and a quarter of an inch to the left of the median line, and its exit about two and a half inches from the coronal suture, one-half inch to the left of the median line; but one-half of the bullet escaped through his cloth cap, the other half remaining in the diploë; the hemorrhage was profuse. While he fell to the ground immediately upon receiving the injury, he did not become unconscious until the end of forty-eight hours, at which time he began to be semi-unconscious, and continued so until the eighth day, when a few pieces of bone, together with the remaining portion of the bullet and a small piece of cloth, were removed. The semi-unconsciousness was not relieved, but continued until the end of the twenty-first day; the sense of sight was lost, taste blunted, and hearing dull after the first forty-eight hours, and for the first eight weeks he did not speak a word, after which his articulation was very poor. Convulsions began seventy-two hours after the injury, lasting for three weeks, and then did not return until December 10 following. It was five weeks

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from the time of injury until the patient could creep; he could use crutches at the end of the eighth week, and continued to do so until the end of the tenth week, after which time he discarded their use, and adopted that of a cane. The right arm and leg were paralyzed during all of this time. His tongue was drawn to the right side, while the left side of his face was paralyzed during his unconscious state. There was retention of the urine, but the sphincter ani was unimpaired. Food or fluid of any kind was swallowed with the greatest difficulty. The impaired special senses gradually became normal, and, while he regained his flesh and the use of his extremities, convulsions would occasionally manifest themselves, greatly increasing in number and severity until he would have two or three daily—sometimes as many as six; this frequency did not begin, however, until April, 1895. There was no pain following the first forty-eight hours of the injury until within the last six months, since which time headache has been rather constant and severe, especially over the seat of injury.

I was consulted July 9, 1895, with reference to an operation. An exploratory incision was advised and readily consented to. An omega-shaped incision was made, extending backward to the coronal suture, in such a way as to allow the skin and periosteum to be drawn forward over the orbital prominences. The opening, which was about three-fourths of an inch long and three-eighths of an inch wide, extending antero-posterior in the skull, could readily be seen; this opening was enlarged by mallet, chisel, and Rogeur forceps to about the size of a silver half-dollar. During this stage of the operation about two drachms of creamy fluid escaped through the cavity beneath. It was found by the introduction of my finger that the cavity was about twice the size of a small hazelnut, and part of its wall was composed of the longitudinal sinus. There were exaggerated pulsations of the dura. In the bottom of the cavity could be felt a spicula of bone, triangular in shape, the point of which extended downward, backward, and outward into the arm and leg centre; it required considerable force to extract it with forceps; it was one inch long, a quarter of an inch thick, and a half inch wide at its base. The cyst appeared to lie external to the pia and the part of the brain involved in the middle third of the antero-posterior convolutions, together with the upper third of the antero-posterior central convolutions, including their junction in the paracentral lobule. After thoroughly cleansing the cavity, a sheet of 23-carat gold, weighing two pwt., and two and a half inches square, was placed sub-periosteally in such a way as to allow the drainage to gravitate backward. Silkworm sutures and a colodion dressing were applied and primary union secured. After a few hours he expressed himself as feeling better than he had for some time; he had complete control of the toes in the right leg, which was not the case before the operation; the numbness in the right arm and leg had entirely disappeared, the tingling sensation in them having ceased; there was no defective articulation, which had so long existed. He left the private hospital at the end of fourteen days, having had but one convulsion, and that within three hours after the operation. He has taken no bromides or medicines of any kind since the operation. He has gained from ten to fifteen pounds in flesh and has not been unconscious since his departure. He has, however, on several occasions had numbness and unpleasant sensations in his right side and extremities; otherwise he is in a normal condition.

Empyema of the Maxillary Sinus.

By C. P. Ambler, M. D., Canton, O.

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Read before the Stark County Academy of Medicine, November 6, 1895.

Of all the catarrhal diseases involving the upper respiratory tract, probably no one is more often improperly diagnosed and treated than those complicating the accessory nasal sinuses.

The fact is often overlooked that the discharge from the nose only indicates that the nares are being used as a sewer to drain a cavity accessory to the nasal passages proper. It is not a difficult matter to determine that the discharge comes from a sinus, but to determine *which* sinus and whether one or more is involved, is a difficult matter indeed.

The symptoms of suppurative disease of the antrum are similar to the symptoms present in suppuration of the other nasal sinuses and what we have to say of the antrum in regard to etiology and treatment in general holds true with the frontal, ethmoidal and spenoidal sinuses also.

Etiology—Suppurative disease of the antrum can generally be traced to one of two causes; an obstructing nasal disease or traumatism of the antrum-wall.

A simple catarrhal inflammation of the sinus is

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a frequent complication of a common cold in the head; the stenosis being temporary, resolution is the result. If there is chronic stenosis of the nasal passage, resolution will be retarded and the secretion retained in the sinus will undergo suppurative changes. If the normal outlet is not free at this time, pressure and pain follow, and when the pressure becomes so great that the discharge takes place, we get the bright yellow, cleanly looking pus, characteristic of sinus inflammation.

If the cavity from now on has free drainage, even if suppuration has occurred, the same in a few days may disappear spontaneously, but if the nasal conditions are such as to retard the flow, if the subject is anemic and poorly nourished, the contrary may result and we have a chronic catarrhal inflammation of the cavity or cavities involved.

Moderate stenosis is the most fruitful cause of postnasal catarrh, especially when the cavity in question is the maxillary sinus. When the case becomes chronic one of two changes is probable, viz., degenerative change of the mucous membrane with polypoid or granulation-tissue formation, or the retention of the more solid part of the secretion, forming a semi-solid putrid debris of a mealy appearance and disgustingly offensive. In either case the delicate membrane may become ulcerated, the periosteum involved and necrosis result.

The position of the normal outlet of the antrum and of the sphenoidal sinus favors retention, from the fact that the opening is situated, not at the most dependent part, but high up in the lateral wall.

Antral disease develops in comparatively few cases of chronic atrophic rhinitis. Where due to nasal disease it is generally associated with or follows some condition causing stenosis. It has been claimed that it is merely an extension of the inflammation from the nasal passages. When we consider that inflammation shows a hesitancy in extending from one anatomic region to another, this seems hardly probable.

It is doubtful if the nares can be occluded with polypi without some antrum complications.

Traumatism, generally the extraction of teeth, plays an important part in the etiology of antrum empyema.

The first two molars frequently project into the antrum, the root being covered by but a thin plate of bone; this becomes injured as the teeth are extracted and the small pieces or spicules of bone undergo necrosis, starting up a persistent discharge of pus from the antrum into the nares.

J. A. Wyeth (*Medical Record*, December 8, 1883), reported a case in which a supernumerary tooth developed in the antrum and acted as a foreign body, causing suppuration with recovery only after operation.

Dr. Wm. Carr read a paper before the New York Medical Society, October 15, 1895 (*Medical Record*, October 26), upon this subject in which he claims that 80 per cent. of antral cases occurring in his practice were caused by either caries of the teeth or injury to the antral wall during extraction. When you consider that but a comparatively small number of cases have teeth which penetrate the antrum, this appears as a remarkable statement.

In the catarrhal form the mucous membrane is hyperemic from the first, and as the membrane and walls of the blood-vessels are extremely thin, slight hemorrhages take place. The mucous membrane becomes greatly swollen and exudes a bloody serum, more or less of which finds its way into the nostril. This stage may last but a few days or may run along for months. Finally, however, the discharge gives way to one of pure laudable pus of a bright yellow color. Periostitis, followed by bone proliferation results in spicules and plates or ridges of bone, which may become so marked as to form partition-walls, dividing the antram into two or more cavities.

SYMPTOMS—The symptoms of empyema of the antram are always vague and differ in each individual case. If the serous bloody effusion of the acute state does not find vent, pain comes on early. Later, tenderness and swelling over the cheek occur; the teeth appear to be elongated and are sensitive. If evacuation does not now occur the pain becomes excrutiating and demands prompt surgical interference. This, however, is not usually necessary. If the normal opening remains obstructed and the secretions go on accumulating, the weaker walls of the cavity bulge, perhaps perforate, and the pus finds it way through the thin external wall and cheek or through the orbit plate.

If evacuation occurs through the natural opening, the discharge comes away for a day or two, then for some cause or other the obstruction becomes greater and the same experience is gone through with again. As a rule, the discharge is greatest during the morning, in many cases ceas-

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ing entirely after the middle of the day. The discharge invariably has a musty, graveyard odor, but never excites inflammation of the nasal passages. The quantity of the secretion is so great that crust-formation is impossible.

The sinus discharge of the early stage frequently finds its way into the pharynx, while after suppuration the pus is blown from the nares.

DIAGNOSIS—The only absolute diagnostic sign of empyema of the antrum is the obtaining of pus from the cavity itself. For diagnostic purposes this can be done with a curved trocar used through the nose, or if the bone is sufficiently thin, by plunging a strong needle through the external wall immediately over the canine fossa. Of all the means at hand for diagnosis, the electric lamp or transilluminator (so-called) perhaps comes next. This will generally determine the presence of pus, but if the face is fat it will fail utterly, as it has in two cases recently in my own practice. In the average face, with a three-candle-power lamp in the mouth, the pink transillumination can be seen up to the orbit, occasionally the pupils of the eye being illuminated; if pus is present in the antrum the pupil cannot be discerned, and the antrum region is dark in comparison with the other side.

The persistent discharge of a bright yellow, cleanly-looking pus from one side of the nose should always excite suspicion of disease of one of the accessory sinuses. Such a discharge occurs only in the presence of a foreign body, in purulent rhinitis of children, syphilis or neoplasm, diphtheria and sinus-disease. By exclusion we should be able to reach a correct diagnosis.

The periodic method of discharge will aid in diagnosis of antral disease. Upon examination the middle or lower turbinated bodies will usually be found coated with pus. Applying a cotton-wrapped probe to the lateral wall and making pressure, pus may be seen to ooze out from beneath the middle turbinated bone. Frankel makes the statement that this is a condition only found in antral disease. I have observed the same circumstance when the sinus involved was other than the maxillary.

In my own hands, peroxid of hydrogen has been one of the most satisfactory aids in diagnosis. Used in a hard rubber syringe with a long, small nozzle, the distal opening of which is closed and a small opening made in the side, the nozzle is carried along the nostril over the site of the normal opening and the stream directed laterally; when the stream comes opposite the opening, some usually finds entrance, and be the quantity ever so small, the gas formed drives out the pus immediately.

In the acute cases pain is complained of in the side of the face and forehead, but in the chronic cases, if present at all, it is referred to the supra-orbital, temporal and especially the occipital regions. This is to me a most peculiar circumstance, the cause of which I am at a loss to say.

Dr. Myles (*Journal Laryngology and Rhinology*, March, 1895), has observed the frequency with which occipital pain is complained of, and he gives no explanation for it. In certain cases percussion over the antrum may be of value, but the advantage to be derived is doubtful. When all ordinary means fail to establish a diagnosis and the symptoms still indicate pus in the antrum, a satisfactory and safe procedure is to pierce the internal wall of the cavity in the inferior meatus of the nose with a curved trocar and canula. Irrigation can be carried on through the canula.

PROGNOSIS—The prognosis is good if the patient is seen in the acute or early stage. Many cases recover without having been recognized. In the chronic cases the prognosis must be guarded and the patient must be made fully acquainted with the condition and requirements or he will soon drift into other hands. The disease rarely endangers the life of the patient unless the ethmoidal or sphenoidal cells are involved. Cases which arise from intranasal diseases require persistent and long-continued treatment in connection with correction of the nasal obstruction or disease. Spontaneous resolution of chronic empyema of the antrum probably never occurs.

PATHOLOGY—The pathology has been referred to in discussing the etiology. It is well to remember that tumors are frequently met with in this region. Polypus, granulation tissue, diseased bone and bone-proliferation are the ordinary causes. In one case recently operated upon by myself, a malignant growth was found involving the greater part of the walls, which could not be removed. The presence of such was not suspected before the operation.

TREATMENT—In the treatment of suppurative antral affections free drainage is, first and last, the paramount requisite. If of the catarrhal variety, this, followed by frequent and thorough cleaning and disinfection will result in a cure. When nasal deformities, hypertrophies or polypi exist their removal is always indicated; in fact a

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certain number of cases will yield spontaneously when these conditions are corrected.

When the normal opening has become patulous, attempts may be made to introduce our cleaning and disinfecting solution by means of a canula; failing to reach the cavity by this means, nothing remains but to make a counter-opening. Either one of three methods may be used in operating, through the alveolar process, the canine fossa, or by the intranasal operation of Mickulicz. Sacrificing a sound tooth to gain entrance through the process is, in my opinion, to be condemned. If a decayed tooth is in place this should be removed and access may be had through the opening left. All that can be done through such an opening however, is probing and washing, on account of the distance through the bone. Such an opening is liable to result in permanent fistula. It is impossible to even thoroughly probe an antrum through such an opening, especially over the floor, where necrosis is usually found.

The intranasal operation is the easiest to make, as the bone at this point is extremely thin; the opening is made by simply plunging a Mickulicz knife (a triangular sharp-pointed blade at right angles to the staff) through the wall. Hemorrhage is slight and can be easily controlled.

In acute cases when an operation is necessary, this method is preferable, but in chronic cases where curetting and long-continued irrigation are necessary, it has the disadvantage of being inaccessible for purposes of curetting and beyond the reach of the patient himself for irrigation. The alveolar operation I have found advisable only where there is a carious tooth in position. If curetting is necessary it will have to be followed by another operation. When it is anticipated that curetting is necessary, the operation had better be made in the canine fossa at once. This opening should be made large enough to allow of thorough exploration of all parts of the cavity with the ring curette. The lip is first dissected loose from the alveolar process, exposing the bone to a distance of from 1 inch to 1⅛ inches above the process. The opening in the bone we make with a hollow trephine, using an electric motor for power. This drill cuts rapidly and smoothly, removes the disc intact and is by far the most to be preferred of all our drills. The drill employed being either a ¼ inch or a ⅜ inch, is started just above the canine fossa, about ¾ inch from the alveolar ridge, in an inward and upward direction, the endeavor being to enter just above the floor. Hemorrhage is profuse for a few moments, but rarely gives any trouble. The cavity is now thoroughly explored for polypus or diseased bone, the same if present being removed with the sharp curette.

Meyrowitz, of New York, makes a ring curette with a flexible shank which answers the purpose admirably. Following curretting the cavity is washed with peroxid of hydrogen and afterward from two or four quarts of bichlorid solution 1-1000 is washed through by means of a fountain syringe and catheter which latter fits the opening in the bone. The cavity is then packed with a strip of iodoform gauze, frequently requiring a strip a yard or more in length and of a finger's breadth. The washing and packing must be repeated every day and as the only method of repair is by cicatricial tissue, this may take considerable time. I have never met any indications or need of drainage tubes and believe they are unnecessary and a great annoyance.—*Cleveland Journal of Medicine.*

Menorrhalgia and Its Rational Treatment.

By G. Betton Massey, M. D., Philadelphia.

In a paper read before this society in the winter of 1888 I suggested the term *menorrhalgia* is a preferable one to *dysmenorrhœa* in designating the symptomatic condition in which menstrual pain is the chief feature. The term menorrhalgia is therefore used in this paper as synonymous with the more widely used term dysmenorrhœa. It is preferred because it involves no theory of mechanical difficulty so inseparably connected with the former term.

That menstrual pain is rarely if ever associated with obstruction of the flow is more definitely determined to-day than ever. Of those who still maintain the truth of this discredited theory, or who, without considering the pathology of the condition, continue to employ dilatation as a remedy, I would ask proof of their theory in the following details:

1. Have they met with a case of ordinary menstrual pain in a young woman in which an accumulation of the menstrual fluid occurred above the alleged stricture?

2. Have they not met with cases of artificial stenosis from a trachelorrhaphy greater than the usual idiopathic stenosis, without the distinctive features of menorrhspasm and without pain?

3. Have they passed a sound during the height of the suffering in any of these cases of

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pain and cramps without finding the uterus more patulous than between periods?

There can be but one conclusion from a series of facts thus elicited—namely, that it is irrational to regard menorrhalgia as due to obstruction in any sense, even though a spasm of the internal os can be produced by the sound between periods, for even this spasmodic contraction will usually be found wanting during the period itself.

It is clear, in the light of all the facts, that menorrhalgia is merely the expression in pain of an attempted functionation of a lame set of organs, the pain often taking the form of a menorrhspasm. The cause of this lame performance of an important function may be in the nervous system exclusively—the neuropathic diathesis—though it is usual to find some chronic inflammatory condition of the uterus or ovaries as the exciting agency.

The rational treatment of the affection calls for a correction of the faulty condition of the nervous system, which is often an actual neurasthenia, and where the local fault is very slight this will be quite sufficient. But if there is distinct physical trouble about the uterus and its associated organs, it is extremely illogical to depend upon general curative measures alone. The case will be a costly failure. In nearly nine-tenths of the cases occurring in single women an endometritis is the exciting cause, for of thirty-two cases of which the writer has preserved careful notes, at least twenty-eight showed marked signs of this condition.

These thirty-two cases presented other points of interest when studied collectively. For instance, in only four of them was any difficulty encountered in inserting a sound of ordinary caliber, and in each of these I succeeded in fully inserting the sound-shaped electrode after several partial insertions and negative applications to the cavity as far as inserted, and in no instance was it necessary to dilate either forcibly or with dilating electrodes after Fry's method. At no time has it been necessary to use force to insert the electrode, and in no instance was a tenaculum or Volsella forceps used to fix the os while the electrode was slipped in.

It would seem, indeed, that the most important enumeration in connection with these cases was of the things I did not do. Of the things accomplished, however, it may be said that I did insert electrodes into all these cases of alleged narrow and obstructed uterine canals without forcing, stretching, or otherwise wounding the structures of the uterus, and that all of the cases, with the exception of four, were cured of the trouble. Neither of these four excepted cases were instances of difficult insertion, and the results were indefinite simply because of insufficient treatment.

Of the thirty-two cases five had been dilated by other physicians ineffectually before coming under my care, most of these having been dilated most thoroughly under anæsthesia on more than one occasion.

The purpose of the electric treatment is therefore not dilatation, as has been incorrectly assumed by some physicians, but the cure of the congestion, inflammation, or malnutrition on which the condition depends.

In most cases the rigid, sound-shaped electrode must be used as a negative pole within the uterus, with currents varying from fifteen to forty milliampères; though in patulous cases an elastic, cotton-covered electrode is preferable. These applications should be made twice a week, interspersed with vaginal applications of both currents if there be tenderness or congestion in either tubal region, and they should extend over two intermenstrual periods, as a rule, to insure permanent results. Should a pelvic neurosis be the only condition present, with or without lack of development or malassimilation, the intra-uterine treatment should be omitted, and reliance be placed on the vaginal application of both currents as the special electrical feature of the treatment. For neurasthenic symptoms the general galvanic stimulation should be added with the other features of the rest-cure methods.

Electricity in the Treatment of Exophthalmic Goitre.

By Robert Newman, M. D., New York.

Consulting Surgeon to Hackensack and Bayonne Hospitals, N. J.; German Dispensary, West Side, New York; Consulting Physician to Home, Yonkers, N. Y.; Honorary Member, Ulster County Medical Society, etc.

Read in the Section on Neurology and Medical Jurisprudence, at the Forty-sixth Annual Meeting of the Am. Medical Association, at Baltimore, Md., May 7-10, 1895.

Much has been written on Basedow's disease or Graves, as exophthalmic goitre is often called. Notwithstanding the large amount of literature on the subject since 1835, its etiology and pathology is not definitely understood or settled. Most authors believe that it is a disease of the sympathetic system, having its origin in the cervical branch. Treatment, therefore, has been more empirical and unsatisfactory. The conclusion is, that exophthalmic goitre ends generally in death, usually caused by complications, of which

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a general nervous exhaustion and marasmus are prominent. Recovery, however, may occur, even without treatment.

While we have on record reports of cures, the treatment by therapeutic means has not been satisfactory. It is conceded that some remedies, like iron and digitalis, have allayed symptoms, but they scarcely cured the disease. The ground of therapeutics is so well covered in reports that this paper will not touch on it and will only consider the treatment by electricity, which has promised to do more than medicines. Successes have been reported by different authors, who have given applications in different ways, but most agree that galvanism is the proper selection to be used in the disease under consideration.

Galvanization has been used by v. Dusch, who, in one case, after many séances, succeeded in lowering the pulse from 130 to 70, and reduced somewhat the exophthalmus.

Eulenburg galvanized the cervical sympathicus with similar results in 1867, using the negative pole. He also used galvano-puncture without any appreciable result.

M. Myer* reported four cases and Chvostek,† who is a pioneer in the observation of this disease, has given much labor, and reports thirteen cases with galvanism in the same manner. These observers report improvements in all cases in which they used galvanism, but do not pronounce decided cures.

A. D. Rockwell‡ has treated cases in a similar manner with galvanism to the sympathicus. He applied the negative pole over the cilio-spinal center above the seventh cervical vertebra, and the positive in the auriculo-maxillary fossa, gradually drawing the positive along the inner border of the sterno-cleido-mastoid to its lower extremity. The second step consists of removing the positive pole to the position occupied by the negative, and placing the latter over the solar plexus, using for a minute a greatly increased strength of current.

Galvanization of the sympathicus has also been practiced by Neftel.

Eichorst uses the negative pole high up in the neck and the positive pole between the scapulæ, a current of five to ten cells for two minutes. Then he applies the positive pole upon the cervical spine, the negative over the sympathetic and pneumogastric upon each side for two minutes, from auriculo-maxillary fossa down the inner edge of the sterno-cleido-mastoid to the clavicle.

As the affection probably begins in the medulla, currents have been passed through the back of the head above the spine. Transverse currents have been passed through the goitre. Several friends tells me they have reduced the size of the goitre by placing both poles near the thyroid, but it is evident they ignored other symptoms of the disease.

Erb has tried very mild currents to the eyes with an uncertainty of benefit.

Ziemssen recommends strong galvanic currents, and at the same time contradicts his own advice by urgiug caution in their use.

Hunter McGuire uses the following galvanic application: Positive cup-shaped electrode containing iodin on cotton over the gland, and the negative pole on the back of the neck.

Frank D. Boyd,§ of San Antonio, Texas, reports improvement of one case in which he used very judicious treatment of the therapeutics and daily galvanic application, but does not state how the galvanism was applied.

There are reports from Vizioli ‖ in 1878.

Needles in goitre by electro-puncture have been used by Duncan,¶ of Edinburgh, and others with unsatisfactory results. It seems that all surgical applications of electricity, as galvano-cautery, electrolysis, cataphoresis, as well as electro-puncture, have given no beneficial or curative results. Even the cataphoresis of Adamkiewicz, an electric anesthetic by diffusion, has given slight and very temporary relief of neuralgia.

From these reports its seems that all operators gave particular attention to the sympathetic nerves, but differed in the selection of the poles to certain regions and the way of application. Some placed the positive pole to a region where others used the negative pole. Some applied the galvanism with the apparent intention to allay only one symptom of the disease, while there are several symptoms to be looked after.

The writer has treated within the last two years three cases of Basedow's disease with apparent good results, which can be called *cured*. All three patients were females.

The first case was a very aggravated one, who

* M. Meyer: Berl. Medic-Gesellsch, 1871-73.
† T. Chvostek: Wien Med. Presse, 1869-1875.
‡ A. D. Rockwell: The electric treatment of exophthalmic goitre. Trans. Amer. Med. Assoc., Philadelphia, 1880, xxxi, 177.

§ Frank D. Boyd: Report of a case of exophthalmic goitre, Medical Record, N. Y., March 30, 1895.
‖ Vizioli: Elettoterapia practica Morgagni, Germajo, p. 69, 1878.
¶ Duncan: Brit. Medic. Jour., Nov. 8, 1888, p. 986.

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was ten years under electric treatment by one of the best authorities and practitioners in electricity. During those years, in which the life of the patient was despaired of, slow progress was made under very careful and judicious treatment. After the treatment had been suspended during a sojouurn in the country, symptoms grew worse, and then in the fall of 1893 the patient came under the writer's care. It needed one year's treatment before the patient declared herself well, and she has remained so up to date.

A detailed history of this case is annexed here, from notes and observations by the writer's assistant, as follows:

CASE I.—W. C., age 40, single. She had been under treatment for nearly ten years with an authority in electricity and nervous diseases. During that time she improved considerably, but was not cured. An interruption of treatment was due to a sojourn in the mountains, during which time a relapse took place. In November, 1893, she came under Dr. Newman's care. She then had all the symptoms of exophthalmic goitre; was very anemic, nervous system was unstrung; a great uneasiness, a general nervous prostration, insomnia, sometimes nausea, anxiety, bowels disordered, with dyspeptic symptoms and all symptoms of neurasthenia. The heart action was irregular, pulse varying between 120 to 150, temperature 100. Emaciation prevailed with scarcely any appetite. The thyroid gland was enlarged—the circumferenee of the neck being thirteen and one-sixteenth inches. The eyes protruded very much, which gave the expression of anxiety to her face. The case was very aggravated, so that her relations were alarmed about her life. Her family history is good, but her father had heart trouble and her mother, who is still alive, has always had symptoms of dyspepsia.

The treatment consisted of galvanism in various ways, three or four times a week. In order to cause an absorption of the new tissue formed behind the eyeball, a medical electrolysis was used. For the negative pole, a solution of chlorid of sodium was applied directly to the eyes, while the positive sponge electrode was held in the hand. Only a very weak current was borne and the electrolysis was caused by the solution—like an eye-bath through which the negative pole acted—as an absorbent. To the enlarged thyroid gland the negative pole was also applied in the form of a sponge pad, and in this the result expected was the diminishing of the size of the goitre by the chemic action of electrolysis. The application to the nervous system, in which the sympathetic was included, was varied according to indications and the solar plexus received its share of attention. One of the applications consisted of a helmet to the head, while the other pole was placed over the solar plexus. This helmet was made of strips of German silver fastened to a circle, which corresponded to the circumference of the head. To have an even action to the head the hair was wet with water, and a wet felt cap placed between the head and the helmet. The result of this treatment was satisfactory in every respect and all symptoms of the disease improved.

May 1, 1894. Improvement in every respect. Patient felt more rested, the unpleasant nervous excitement was calmed, and sleep procured. Heart had a more steady action; pulse was reduced and the measurement around the neck was twelve and seven-sixteenths inches in circumference, five-eighths of an inch reduction. Patient left in July, 1894, for a sojourn in the mountains, which interruped the treatment, *pro tem.* September 6, 1894. Slight relapse has occurred while being without treatment. The thyroid gland has increased, and the measurement is twelve and five-eighths inches around the neck. September 20. Treatment in the same manner as before, with galvanism; has made rapid improvement. Heart is more regular; pulse is reduced; eyes still prominent. October 2. Thyroid gland is reduced so that the circumference of the neck measured twelve and one-half inches. November 30. Thyroid still lessened—measurement twelve and seven-sixteenths inches. Treatment continued; no medicine given, only galvanic applications. March 22, 1895. Neck's circumference normal size—twelve and three-eighths inches—the patient when in perfect health wears a twelve and one-half inch collar. The eyes have resumed a natural look, without having any protuberance. Heart's action is normal; pulse 76; temperature 98.5; all nervous symptoms subsided; good natural sleep procured. Patient considers herself well; takes part in all the pleasures of life and enjoys all in an active way.

CASE II.—Had many symptoms like the first, but was not as aggravated. The treatment was similar and has been pursued for nine months. The patient, a female, 30 years old, has improved so much that a cure may be pronounced, but is still under

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observation with galvanic applications at irregular intervals.

CASE III.—The third patient was a young lady who sang a principal part in an opera company. A question arises here if heredity has an influence, as her mother died of Basedow's disease. This patient had an exophthalmic goitre which was correctly diagnosticated, and different physicians treated her with medicines for over two years, during which time she grew gradually worse, until at last, at a performance after re-entering the wings, she fell prostrated and unconscious, ending her operatic career for a time. The patient came under the writer's treatment in December, 1894. The electrical treatment was carefully but vigorously pursued; on an average, five séances per week were held. In less than four months this very aggravated case was entirely cured. All symptoms have disappeared, the constitution improved, weight increased, and features restored. Patient considers herself well and is ready to enter another opera company. (Since the above has been written, patient has appeared on the stage, and feels very well.)

In this case were complications of severe oöphoritis and endocervicitis. There was a hemorrhage from the uterine cavity which increased on the slightest touch, and also a profuse mucous discharge. The region of the ovary, in fact, the whole hypogastrium was painful, and the sensitiveness was increased on any pressure. These uterine troubles have been treated locally at intervals. The only therapeutic agent given this patient has been peptonate of iron to improve the quality of her blood on account of the anemic state, which was very marked. The iron was given when the nervous symptoms were improved, and then it acted well.

The electric treatment of this case consisted of galvanism, given in different ways and places. The galvanic treatment was assisted by the spray of the static machine. The spray was given twice a week very cautiously over the spine, head and over the sensitive parts of the ovaries with very good effect.

The history of this case has been written up by the patient herself, in which is embodied notes about her mother, who died of Basedow's disease. The interest is in the question of heredity. The diagnosis in both cases of mother and daughter had been made by several eminent physicians with an unfavorable prognosis. These notes are here annexed:

History of the third case. The patient, Z. R., writes as follows:

NEW YORK, April 6, 1895.

At the age of 16 I had just returned from Europe, it being a pleasure trip only. After being home but a short time I was taken seriously ill. The palpitation of my heart troubled me dreadfully, and occasionally a spasmodic pain of the heart which was severe while it lasted. My feet began to swell and I was so prostrated, physically, that it was impossible to go the shortest distance without great exertion and fatigue. Dr. Loomis, the great authority on lung and heart diseases, pronounced me incurable and warned my mother not to allow me to go anywhere without an escort as I was liable to drop dead at any moment. My mother shortly afterward was advised to put me under the care of Dr. Louis Conrad. He said I had a defect in the heart which was incurable, but if I took care of myself and led a quiet life that it would not bother me. He also informed my mother that I was suffering from a disease called "chlorosis," or "poverty of the blood." Nevertheless, under his treatment I survived, not being very strong at any time—naturally delicate. About three years later my mother having enjoyed good health up to the date making her forty-eighth year, began to complain; being of a bright, strong temperament and was subject to very severe, nervous headaches.

I wish to say that she was a great business woman, having as many as 300 hands under her employ at one time, which made a great deal of brain work for her, but at the time of which I speak, from that period, she seemed to fail gradually. She grew more excitable, easily fatigued, excessively nervous, gave way to temper at the slightest provocation, which would terminate in a severe nervous headache, and the only cure was perfect quiet in her room in complete darkness. A year later, she complained of increased fatigue, but I presume the Basedow's disease was gaining more hold on her system. Her heart beat so tumultuously that she felt the pulsation in her throat, but her neck did not increase very much in circumference. The inflammation of the eyelids and bulging of the eyeballs—this last being made more prominent by a staring expression. Her knees gave way, but being of a determined disposition she would not go to bed.

Shortly afterward, I went away on business. My mother became annoyed at a servant, gave

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way to a fit of temper, and the excitement was too much for her. She fainted, and from that day to the day of her death was confined to her bed. As she had previously used up her strength worrying about domestic affairs, business was a thing of the past.

From that time her heart beat faster and more irregular; marked pulsation was felt in the throat, ends of fingers, in fact, all over her body. Under the optician's examination there was found a pulsation in the eye. She had a hacking cough, at times violent, especially after eating, which would make it almost impossible for her to keep any food on her stomach, but that did not surprise me as each doctor would give her a new dose of medicine, and between the various ones and the medicine that would be given after each consultation, I do not wonder at her digestion being ruined.

Mother suffered all her life with constipation, the treatment of which she neglected. The doctors gave her some medicine which made her bowels so loose that it made her very weak. Three weeks before she died I had to take her to a hospital, one of the best in the city. The doctors there gave her champagne, and it made her delirious. After one of the delirious attacks she was put to bed by four doctors. They told me she asked after me, required my presence, turned over and died. She was 50 years old.

I was sleeping, and as I was exhausted with the care and worry about her, I was not called until too late. She died of exhaustion and with a pulse of 180. I have always had a doubt in my mind as to her death being easy—I suppose the doctors wanted to spare my feelings, but the truth would have been preferable. I nursed and attended her through her entire sickness—the serious period being about seven months. During the above period she lost flesh rapidly and was very much emaciated.

A few months after my mother's death I was married. My married life was a failure from a domestic and physical standpoint. My husband abused me, which run my health down dreadfully, and combined with the shock of my mother's death, which I will never survive, I became a bunch of nerves.

I have been doctoring for two and a half-years and no relief. In June I shall have been married three years, and will be 25 years old the 30th of next October.

The doctors have not helped me one particle. All they did was to fill me with opiates and chloral which almost killed me—in fact, I was in a state of complete collapse. Four months ago I called in Dr. Newman—having all the symptoms of Basedow's disease previously mentioned; nervousness, sleeplessness, melancholia, loss of appetite, irregular action of the heart, very excitable, irritable temper, general fatigue at the slightest exercise, a feeling of numbness in the limbs, swoolen feet and puffing out of the flesh in which the finger could make an impression. After four months of galvanic electricity, I feel better than I have for years and consider myself well enough to discontinue treatment. Occasional application from the static machine often relieved me of a nervous headache; in fact, relieved a pain in the spinal column which was for a period continuous and very painful.

REPORTS OF CASES.

On record are reports of cures by medicines, electricity, both combined, and even spontaneous cures. These results, however, are exceptions, and the rule in the treatment of exophthalmic goitre is that they are failures, often ending in death. It is also conceded by most authors that electricity, in this disease, gives better results than medicines. This, however, does not prove that electricity in any form, and even given by specialists, always cures.

There are failures and unsatisfactory results reported. The writer has made diligent inquiries among reliable specialists in electricity and been told of cures, benefits, as also of indifferent and unsatisfactory results and even failures. Such results must be expected, as the *modus operandi* of electricity has been conducted differently by the operators, and it seems even on entirely opposite plans.

TREATMENT.

Electrical specialists in the treatment of exophthalmic goitre have mostly given galvanism to the sympathetic, and in this they all agree. They differ, however, in the selection of the poles, the direction of the current, the size of the electrodes, the duration of the séance and the intervals.

It seems, further, a mistake to treat solely the sympathetic system and to overlook other important points of this disease. Most European authorities give the electric applications too short, being from one to two minutes' duration, while in America such séances are prolonged to about twenty minutes, which tires the patient and gives to[illegible]ulation. The question arises, if it

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would not give better results to arrange the electric applications more rationally to symptoms and complications, as with our present knowledge neither etiology nor pathology of this disease is settled.

PROMINENT SYMPTOMS.

Beside complications and natural consequences, exophthalmic gotre has three prominent symptoms to which the treatment should be directed. These are:

(*a*) Irregular heart action with all kinds of nervous symptoms.

(*b*) Enlargement of the thyroid gland.

(*c*) Protrusion of the eyeballs.

Complications are anemia, emaciation, insomnia, uterine diseases, irritability, edema, fainting spells, etc.

The Indications for Treatment are: (*a*) to reduce the pulse, regulate the heart action, produce rest and sleep and allay the nervous symptoms. Beside the sympathetic system it is necessary to regulate and treat the pneumogastric and vagus; (*b*) to diminish the size of the thyroid gland; (*c*) to remove the plastic new formations behind the eyeballs.

The Treatment, therefore, would be:

1. Galvanism to the sympathicus, vagus and pneumogastric, in such form as to reduce the pulse and stimulate the heart's action. In other diseases, galvanism quiets to such a degree that patients fall asleep while the application is given.

The Strength of the Current must be regulated according to the toleration of the patient in every case. The operator must exercise great care in slowly increasing the electro-motive force of the current, till the exact amperage is found, and every step of increase and decrease must be made with care and without any accidental shake or jerks of the current. The exact measure in milliamperes cannot be advised and depends entirely on the sensation in each individual case. Some patients may be so irritable that even 2 milliamperes may be too much, while others can endure 20 or even 30. It is also essential to regulate the strength of the current in the same patient according to the region to be galvanized, to the size of the electrodes and the resistance between the two poles.

The *Static Electricity* will assist to regulate the vascular circulation, allay nervous irritation, creating a sedative to the heart and a more refreshing sleep.

2. The thyroid gland will be reduced with almost a certainty by the negative pole of the galvanic battery. Some report good results by applying both poles near the gland, one on each side. While this may result the method is harsh and not rational. Surgical means have not been successful.

3. The protrusion of the eyeballs can only be cured by diminishing the new formations of tissues grown behind the eyeballs, by which the eyes have been pushed forward. This can be done by the use of the negative pole to the eyes, which acts like an electrolysis, absorbing the foreign tissues. The complications have to be treated according to indications.

The static electricity is here recommended only as an assistant and must be given with care. Sparks are contra-indicated, as they are too severe and will create often more nervousness and even pain. Breeze or spray will act well, allaying pain and regulating the circulation.

There Should be Avoided: Too strong currents, too long séances, which tire the patient and over-stimulate internal electrolysis, and surgical electricity. The faradic current has been used and recommended, given with certain precautions, but it seems it is contra-indicated, as a severe measure, which over-stimulates and disturbs more the diseased nerves.

With regard to general rules, avoid also excitement, over-exertion, stimulants, strong tea and coffee. It is evident that the treatment, and especially the application of the electricity, must be intrusted to an expert, and that the family battery for self-use (or abuse) is entirely out of the question.

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—*Journ. Am. Med. Association.*

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Pulmonary Hypertrophic Osteo-Arthropathy.

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Read in the Section on Practice of Medicine, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

I have chosen this symptom group for description as it is one that has received little attention from American writers. It has been my fortune to find but one case described in the literature of this country. This was written by Dr. Packard[1] and published in the *American Journal of Medical Sciences* for June, 1892. In European literature I find more than forty cases described during the last five years.

The characteristic lesions were first pointed out by Marie[2] in 1890 and received from him their name. His attention was attracted to these cases by the need of differentiating them clearly from acromegalia, which he described first in 1886. He found that many observers confounded these disorders, which, in some respects, resemble one another. Moreover he believed that the bone lesions of pulmonary hypertrophic osteo-arthropathy were always due to the absorption of a chemical irritant produced by a primary disease of the respiratory organs.

The affection may be defined as a chronic multiple osteitis, involving especially the terminal phalanges, which are in consequence greatly deformed and the ends of the bones of the extremities. These bone lesions follow a chronic disease of the respiratory organs.

Almost simultaneously, Bamberger,[3] of Vienna, described the same lesions, and assigned to them the same cause. He, however, included among his cases, cases of congenital heart disease, which exhibited the same osseous malformations, although they could not be explained as due to the same cause. Endeavoring to prove the correctness of his surmise, that this form of a osteitis was the result of a chemical poison absorbed from the lungs, pleura or bronchial tubes, Bamberger introduced sputa from one of his cases beneath the skin of animals, endeavoring thus to produce the characteristic lesions; but he was unsuccessful. The earliest and most widely accepted explanation of the clubbed fingers of congenital heart disease has been the existence of chronic cyanosis. But need of well oxygenated blood will not explain the cases of Marie's disease, for it is not a symptom of it. The fact must also be remembered that in most cases of congenital heart disease there are coincident chronic lesions of the respiratory organs, such as passive hyperemia and bronchitis. Since the original description of this group of symptoms by Marie, other observers have found them associated with other than lung diseases—with congenital heart disease, with syphilis, and possibly with caries of the spine. It is evident, therefore, that the bone lesions can not be due simply, or always, to the absorption of a chemical poison from the lungs or pleura. It is a fact, however, that in very much the largest proportion of cases, they are associated with chronic suppuration in the respiratory organs.

Thorburn,[4] who has described several cases, all primarily of tubercular disease of the lungs, believes the lesions in the bones to be those of an attenuated tuberculosis. This view is not sustained by other observers for in many instances sputa examinations do not demonstrate tuberculosis. Möbius[5] has suggested that this form of osteitis may be due to a primary affection of trophic nerves, for a clubbing of fingers and enlargement of bones in the neigborhood of joints has been known to result from neuritis. He describes one case in which only those fingers whose nerve supply was interfered with, were affected. Orillard[6] has described a case in which there was the deformity of the hands characteristic of this malady, which he thought resulted from caries of the vertebral column, but even in this patient there was a chronic sero-fibrinous pleurisy on the right side. Three characteristic cases have been observed associated with syphilis. No lung or cardiac lesion was found in two [7] [8] of them; and no cause of the bone affection could be assigned, except the constitutional disease. In the third, which was described by Chretien,[9] gummata were found in the spleen, liver, and various organs of the body, and a cavity of irregular size, containing partly caseous and partly cretacious matter, was discovered in one lung, as well as numerous small bronchial dilatations, which contained pus. It is therefore doubtful in this instance whether the affection was not due to the coincident lung disease rather than to the constitutional one.

We must conclude, I think, that pulmonary hypertrophic osteo-arthropathy is not a distinct disease as acromegalia is; but a symptom-group, oftenest coincident with chronic lung affections, rarely with diseases of other organs and with

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syphilis. From the analogous action of some chemical poisons, such as phosphorous and arsenic, and the well-known tendency of certain infections to involve bones and joints in inflammation, it is probable that this chronic osteo-arthropathy is due to a toxemia which finds its source in the respiratory organs when they suffer from certain chronic diseases. It is best, therefore, to retain the appellation which Marie has given to this group of symptoms, remembering, however, that pulmonary hypertrophic osteo-arthropathy does not signify a pathologic entity, but an affection commonly associated with disease of the respiratory organs, although having at times a different origin.

The symptoms can perhaps be best depicted by describing a typical case:

A boy 4½ years old came under my observation a short time ago with the following history: When about 1 year old he had pneumonia. Since that time he has coughed more or less constantly, and has frequently expectorated large quantities of purulent sputa. About one year after the primary pneumonia, his parents noticed that the ends of his fingers and toes became deformed by enlargement and that his wrists and ankles were increased in size to an abnormal degree. He required shoes several sizes larger than children of his age usually wore. His family history threw no light upon the origin of his malady. His parents are poor and in consequence he has not had constant medical aid. He appears as tall as children of his age usually do; fairly plump; his face is well shaped, although his expression is dull; his nose is short and somewhat broad; ear lobes a little thick; cheeks full; lips rather large, especially the right half of the lower one, which is slightly pendent. His teeth appear quite normal, and his jaws and tongue are not enlarged. The skin on all portions of his body is smooth, soft and quite natural in appearance. His neck is slender. The thyroid and lymphatic glands about it are not abnormal. His body is well proportioned. There is no spinal curvature, although a dorsal kyphosis has often been observed in this affection as well as scoliosis. Comparative immobility during respiration and enlargement of the left half of the thorax is noticeable. The lower intercostal spaces on that side are not observed because of their distension, although readily seen upon the right side. The apex beat of the heart is invisible. Palpation of the chest reveals only the smoothness and distension of the left side. On percussion the whole of the left side is found to be absolutely dull, both in front and behind, and from the clavicle to the bottom of the thorax. On the right side, resonance is quite normal, except that between the third and sixth ribs, and extending about an inch to the right of the sternum there is an area dullness, due evidently to displacement of the heart to the right side. The respiratory sounds over the right lung are strong and exaggerated; over the left lung they are entirely wanting, except just beneath the clavicle and in the upper half of the left inter-scapular region, where there is consonant bronchial respiration.

It is evident that an effusion completely fills this boy's left pleural cavity and compresses the lung against the posterior and upper wall of his chest. As he has been expectorating from time to time, large quantities or purulent sputa, it is probable that the effusion is purulent and has been partly drained through the bronchial tubes. The effusion has existed at least a year, for as long ago as that, his parents were told that his left lung was useless. There is no disturbance of appetite, digestion or interference with the functions of other viscera. His parents say that at times he is feverish, especially just before and when expectorating large quantities of purulent sputa. His pulse is quite normal as regards fullness, force and rapidity, and when seen by me there was no increase of bodily temperature. The bones of the body are not deformed. Nor are those of the upper arms enlarged. But both wrists are considerably thickened and broadened. There is no interference with the motions of these joints. The metacarpal bones are not affected, but the first phalanges of the fingers are abnormally large, especially near the first finger joint. The second row are little or not at all affected, but the terminal phalanges are enormously and most characteristically enlarged. They are greatly broadened, and at the same time greatly thickened. The nails are abnormally arched, both laterally and longitudinally, so that they curve over the finger ends like parrot beaks. The last phalanx of the thumbs measures 6 c. m. in circumference and of the middle finger 5 c. m. The enlargement of the wrists and of the fingers is so great that it creates the impression of a general increase in size of the hands, although a genuine increase is not observable in the carpo-metacarpal regions. Precisely the same changes are visible in the feet. The ends of the toes,

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especially the big toes, are clubbed and greatly enlarged. The ankles are considerably thickened, as are the bones about the knees. The joints of the knees are not distended with fluid but the lower ends of the femurs are much enlarged. The hands and feet are mobile but the knees are slightly stiffened. There is no tenderness about the joints and never has been much.

The parents of this boy say that he has rarely complained of pain, although there are times when he seems inclined to play less than usual. In some other cases pain has been a prominent symptom. It has, however, rarely confined a patient to bed, although it has often restricted the use of the extremities. Pain is most apt to occur at the onset of the bone affection and is rheumatoid in character. Although in a small proportion of cases the onset of these lesions is painful and somewhat abrupt, as a rule it is insidious. A striking and characteristic feature of this malady is the symmetrical distribution of the changes in bones and joints.

As yet it has not been possible to obtain samples of the sputa or urine of this patient for examination. When urinalyses have been made in similar cases no marked abnormality has been found. Legrain,[10] who investigated with unusual care the chemical composition of the urine of one patient in whom these lesions developed in infancy, and persisted up to the time of the examination, when he was 25 years old, found the quantity voided daily to be normal or only slightly increased. Its specific gravity was normal; and it contained between 14 and 15 grams of urea per liter; about 13 grams of chlorids and 1.6 of phosphoric acid. The proportion of earthy phosphates to alkalin phosphates was as 4 to 5. He found .07 of a gram of magnesia per liter of urine and .216 of lime. This is twice as much lime as normal, in proportion to the amount of magnesia. Legrain discovered that when acids were administered to this patient the amount of lime was increased still more. He was led to investigate particularly the proportion of lime and magnesia voided, by some observations of Chabrie which he quotes; the latter found that the affected bones in this disease contained comparatively a small amount of lime salts and proportionately a large amount of magnesium.

Post-mortem examinations of the bones have been made by Bamberger,[3] Therese and Rauzier.[11] They find in varying combinations an increase of synovia, enlargement of the epiphyses, erosion of the cartilages in some of the joints and enlargement of the long bones just above the joints, and sometimes along almost their entire length; thickening and adhesion of the periosteum in places, and the formation of wart-like growths of new bone within the periosteum; occasionally also they have observed central rarefying osteomyelitis.

These lesions may develop at any period of life, from infancy to old age; although oftenest in the earlier years of adult life. They occur most frequently in males.

Of affections of the respiratory organs with which this osteo-arthropathy seems to be associated, tuberculosis, empyema, and bronchiectasis are the most common. Cancer and sarcoma of the lungs with complicating bronchitis and pleurisy are among the rare concomitant affections.

A diagnosis of pulmonary hypertrophic osteo-arthropathy is usually not difficult. The peculiar and characteristic clubbing of the fingers resembles no other affection, except the common hippocratic finger or drumstick finger, from which it can be distinguished by the involvement of joints and other bones than the terminal phalanges. The close resemblance of these affections and their association with similar diseases makes it probable that the former is an exaggeration of the latter. The shape of the terminal phalanges, the location of the enlargement of the other bones, their shape, the non-involvement of the cranial bones make it easy to distinguish this affection from chronic rheumatic arthritis, liontiasis ossea, gigantism, and the commoner tubercular or syphilitic joint lesions. It is easier to confound it with acromegalia, although such confusion will not happen if close attention is paid to the characteristic symptoms of the latter disease. In acromegalia the terminal phalanges and finger nails are not disproportionately enlarged and deformed; the fingers, as a whole, are uniformly and proportionately enlarged. The same is true of the toes. The metacarpal region of the hand, and the metatarsal region of the foot is much increased in size, especially in proportion to the wrist. Kyphosis is usual, but it is generally cervico-dorsal, not dorso-lumbar, as in this affection. In acromegalia the inferior maxilla is greatly enlarged, and so protruded that the teeth of the two jaws often cannot be approximated perfectly. The nose, ear lobes, lips and tongue, are very much increased in size. These deformities may interfere with speech, mastication and deglutition. Acromegalia is also not associated with any dis-

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ease of the lungs but with an enlargement of the pituitary body and consequently commonly with disorders of vision.

Improvement in the bone lesions has very rarely been observed. Moussous[12] saw one case due to empyema, in which drainage and thorough cleansing of the pleural cavity was followed by a diminution of the deformity of the fingers and toes. Gillet[13] noticed similar improvement in another case, follow drainage of a tubercular cavity. One[7] of the cases of supposed syphilitic origin also recovered after a course of specific treatment. Another case has been reported by A. Desmons[14] and W. Binaud, which they treated by subcutaneous injections of tissue extract, made from the lungs of healthy sheep. These injections were made for several months, without injury or noticeable discomfort to the patient. The deformity no longer increased. The patient improved in general health. And what was more noteworthy a thoracic synous which had persisted for years and grew out of an empyema that caused the osteo-arthropathy closed perfectly. At the same time, ease in the flexion of the digits. and muscular power in the hand increased. Motion in the joints of the feet and legs, became so much freer that the patient could walk without a cane, upon which he had long been dependent. A single trial of so novel a treatment is suggestive but not demonstrative of its utility.

The result of treatment in the case which I have described cannot be related, for the child has come only recently under my observation, and as yet it has been impossible to execute the surgical treatment which is required. Aspiration, and if the effusion proves to be purulent, as it seems probable that it will, thorough drainage of the pleural cavity is indicated. By this procedure we may hope at least to stop the bone disease in its progress and possibly even effect a disappearance of it.

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—*Journal of the American Medical Association.*

Tetanus Antitoxine Successfully Employed.

Dr. Paul Gibier received a letter yesterday (*N. Y. Press*) from Dr. Wray Grayson, of Washington, Pa., containing an account of a case of tetanus cured by the anti-toxine treatment.

The patient, whom Dr. Grayson designates in his letter as "B. T., a sturdy boy of six and one-half years old," while playing in his father's barn, in September, stepped on a piece of rusty wire, which penetrated his right foot nearly an inch. The wound was very painful, but after a week it healed. Seven days afterward the boy became ill.

He complained of a loss of appetite, stiffness of his jaws and cramps in his legs. His jaws became locked, the muscles of his face were drawn, his legs grew stiff, and he suffered such intense agony that chloroform was administered to relieve him. The case assumed such an alarming aspect that Dr. Grayson telegraphed for anti-toxine, which was sent to him at once. The injection was made as soon as the anti-toxine was received, and within a few hours its effect was noticed.

"Almost immediately," writes Dr. Grayson, "the boy's convulsions became less intense, and finally ceased. The tension of the muscles was relieved, and in a few days all danger had passed." After that the patient's recovery was rapid, and gradually he was relieved of pain. He regained the use of his jaws, and with it came the return of his appetite. He is now pronounced entirely cured.

"This is the third case of tetanus in a human being," said Dr. Gibier, "which the anti-toxine

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has cured, and it proves conclusively that it is good for man as well as beast. The case of Joseph Revers, who died of tetanus, on Monday, was a test in no sense. The disease had progressed so far that nothing could have saved the boy."—*The American Therapist.*

Alcoholism in Wine Growing Districts.

It has been often affirmed, and no doubt sincerely by individuals not conversant with the facts, that the free use of wine in wine growing districts is not only not injurious to the inhabitants, but, in fact, promotive of temperance, in that the moderate use of wine lessens the tendency to the excessive use of distilled liquors. We all know that the vintage of France enters largely not only into its own but to the world's supply of wine. The French people, therefore, ought to be competent judges as to the truth or falsity of this oft-repeated statement.

With reference to the moderate or the excessive use of wine in wine-producing France, the facts are these: In 1830 the annual consumption per capita was 1.12 litres (about 1⅛ quarts) of pure alcohol. In 1894 it was, annually, 4.04 litres (a little over one gallon) of pure alcohol for every man, woman and child. If wine contains from 12 to 20 per cent. only of alcohol, it is easy to compute the number of gallons to each person. In 1830 there was one dram-shop for every 113 inhabitants. In 1894 there was a drinking place in France for every 84 persons.

One of the least important facts in this connection and yet one which has specially commanded the nation's attention was the greatly increased number of exemptions from military service on account of physical inaptitudes and mental alienations resulting from this increased consumption. This condition of things has necessitated active measures on the part of the government to restrict this evil, and it has taken hold of the work at the right end. The Minister of Public Instruction is seeking to combat the evil through the agency of the public schools, where systematic instruction by competent men as to the injurious effects of alcohol upon the human system is made a part of the curriculum. In this humane movement the medical profession of France is largely represented by many of its most noted members.

We have yet to learn that in any other country besides France the use of fermented beverages has lessened the tendency to intemperance. It is, on the other hand, gratifying to state that during the last forty years the consumption of alcohol in England has not increased, and that in Sweden it has diminished 50 per cent.

What shall we say of the United States and of the attitude of our medical men upon this question?—*North American Practitioner.*

THE Directors of the Post-Graduate Medical School and Hospital have named one of their wards in memory of the late Dr. Charles Carroll Lee, who was for many years a professor in the institution. They have placed a tablet in the ward, giving the names of those who combined to contribute the ten thousand dollars, which was given for the purpose of the memorial. These names are as follows: Dr. Robert Abbe, Dr. L. Bolton Bangs, Mrs. James Beales, Dr. Stephen S. Burt, Miss Caldwell, Dr. Charles L. Dana, Dr. Bache McE. Emmet, Dr. George H. Fox, "A Friend," Dr. Horace T. Hanks, Mr. and Mrs. Eugene Kelly, Mr. and Mrs. Henry J. Lamarche, Dr. Daniel Lewis, Mr. and Mrs. William Lummis, Mr. and Mrs. Frank A. Otis, Dr. Clarence C. Rice, Mr. Eli K. Robinson, Mr. Nelson Robinson, Dr. D. B. St. John Roosa, Mrs. Eliza M. Sloan, Dr. Andrew H. Smith, Mrs. M. E. Sparks, Dr. Reynold W. Wilcox. It will be seen that the faculty of the institution participated largely in the memorial gift.

Typhoid Fever in Young Children.

This is a subject that has been receiving considerable attention from the pediatric societies of late, and many proofs have been furnished to show that this disease is extremely rare under three years of age. The December number of the *Archives of Pediatrics* gives very strong evidence on this point. Thus the records of four of the largest children's hospitals of the country show that not a single patient under three years of age has been admitted for typhoid fever in many years. In the New York Foundling Hospital not a single case has been seen for twenty years, the facts being vouched for by Drs. Northrup, O'Dwyer and J. Lewis Smith. Why children at this age, when so susceptible to other intestinal diseases, should be practically immune from typhoid fever is not known.—*Tri-State Med. Journal.*

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Original Articles.

Clinical Aspects of Tuberculosis in Early Life

By C. M. Gould, M. D., West Superior.

Read before the Wisconsin State Medical Society, June, 1895.

To undertake in a single paper the full presentation of "The Clinical Aspect of Tuberculosis in Early Life," would be, if not impossible, at least injudicious, as it would take up more time than is allowable at our meetings, and then, too, after what might seem to the writer a satisfactory conclusion of the whole matter, a review of the subect with due contemplation would convince him that there were many things left unsaid, many important points untouched. Appreciating, fortunately, these facts in advance, I shall not attempt an exhaustive essay.

The study of the clinical features of tuberculosis in the child as well as in the adult, is both fascinating and appalling; fascinating, because of the varied forms and manifestations of the disease; appalling, because of its almost universal onward progress towards a fatal end. Formerly scrofulosis and tuberculosis were regarded as, if not entirely separate and distinct diseases, yet so far unlike that the former was applied to children presenting the well-known diathesis manifested in glandular swellings, opaque skin, large bones, etc., who, unless early brought under proper hygiene conditions and medical treatment, would later develop or degenerate into tuberculosis. This idea has largely passed into medical history and given place to the present general concensus of opinion based upon what seems to be indisputable evidence, that all these cases are bacillary in origin, the only difference being that the virulence of these lesions is not so great as that of the tubercular products of the viscera. This in a large measure accounts for their more protracted course, and their tendency to a more favorable termination

The disease manifests itself most commonly in the form of a localized inflammation, which may so continue throughout its course, or it may be accompanied by symptoms of general infection, giving rise to the successive development of like inflammations in different parts of the body, or, suddenly, in many parts at the same time.

The red border upon the gums observed by Fredricq-Thompson, and regarded by him as a suspicious sign of tuberculosis in young subjects, Vierordt claims has no significance. The congenital deformities of the thorax, either the pterygoid or flat, as described by Gee, or that caused by lateral curvature of the spine, may or may not be significant of phthisis. It may merely be an indication of general defective development.

Acute miliary tuberculosis runs a more rapid course in children than in adults, and may assume either the form of an acute infection without definite local manifestations, or they may be present to an intense degree, with symptoms indicating either the involvement of the meninges the lungs, or the serous cavities.

The course of the disease depends upon the character and diffusion of the deposits. If miliary tubercle be scattered pretty generally throughout all the organs of the body, the patient succumbs in the course of three to eight weeks. If, instead of this, the deposits are coarse, known as the large grayish yellow tubercle, between which there exists considerable unaffected tissue, the course will be longer, as the disease will assume a subacute character continuing twelve to sixteen weeks.

In one class of cases in which the symptoms indicate a general infection, the most prominent may be such as to suggest "enteric fever;" another the involvement of the pulmonary tissues. If the former, there may be all the premonitory

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symptoms characteristic of typhoid fever, such as lassitude, anorexia, bronchial cough, diarrhœa, and, in the latter part of the stage, an evening rise and morning fall of temperature. A small ratio of cases, however, do not present this prodromic stage; with them the onset is often exceedingly abrupt, the child seeming in good health until fever commences.

After four to six days from the first noticeable signs of disease, the child takes to his bed with the manifestations of infection. The diarrhœa continues unless restrained by treatment, which is exceedingly difficult to effect in many cases. The abdomen becomes quickly distended; the spleen and sometimes the liver, enlarges. The bronchial cough, so pathognomonic of typhoid fever, likewise continues, and according to the intensity of the fever, the respirations are hurried. Headache, with delirium, particularly at night, and more or less general hyperesthesia. The temperature varies, in some running as high as 105°, in others not exceeding 102°, and occasionally a case occurs without any perceptible fever.

To differentiate from typhoid fever is exceedingly difficult. As an aid in diagnosis, we have in the tubercular disease a more decided daily exacerbation, and less constant regularity in the evening rise and morning fall of temperature. Yet this fact would have little significance with us at Superior, as in many of our cases which we consider typhoid, the temperature is erratic, the highest may be in the morning or at noon, the lowest at sundown or midnight. Yet following the general law governing the temperature in typical typhoid, this is some assistance. Another important aid is the absence of the red spots, so peculiar to typhoid fever. And still another diagnostic feature presents itself to me, and that is this: In all cases of typhoid fever the pain in the head ceases (or at least we have no evidence of its presence) upon the advent of delirium. Such is not the case in tubercular disease, but, on the contrary, it rather increases. Emaciation progresses more rapidly, and the vital forces yield sooner than in typhoid. Death usually occurs between the second and third week, but may be deferred to the fifth or sixth. If the course of the disease is prolonged, there will develop certain physical signs which render the diagnosis quite certain, such as congestion of the capillary tubules and partial hepatization of the lungs, especially at their bases, giving rise to decided dyspnœa.

To differentiate tubercular diarrhœa from ordinary chronic diarrhœa is not ordinarily difficult, as in the latter, distention of the abdomen is the exception, and there is no constant elevation of temperature, unless ulceration is present, in which case fever of high grade precedes the diarrhœa, and the anemia and wasting follow the intestinal trouble and are usually in proportion to it. The spleen is rarely enlarged, and the lymphatics seldom if ever, and moreover the trouble is more liable to manifest itself during infancy, whereas tubercular diarrhœa seldom occurs under three years of age.

In the class of cases of the pulmonary type, the clinical features are such as attend simple broncho-pneumonia. The onset may be abrupt but this is not often the case. The child has usually either been gradually failing in general health, or is convalescing from some one of the acute exanthematous diseases, or suffering from a naso-pharyngeal catarrh. The pulse is rapid; temperature high; respirations hurried, reaching as high as sixty to seventy per minute. Cough dry and frequent and increasing dyspnœa. Diarrhœa may or may not be present. Resonance is not diminished, may be increased, and while at first the respiratory sounds are such as indicate an intense capillary congestion, later there may be blowing breathing and rales of amphoric character, indicating the presence of a vomica. The disease is rapid and may end in a week or less time, with all the symptoms of an acute suffocative catarrh. Or, what is more likely, by progressive stagnation of the pulmonary capillaries in twelve to fourteen days.

The chronic form is more incident to infants than to children over two years of age, and is characterized by a gradual development of tubercles in different parts of the body. They consist of coarse grayish yellow masses of varying size, from an ordinary pea to a walnut. It sometimes happens that areas of caseous bronchopneumonia undergo softening, but cavities are unusual in children under four years. The

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bronchial glands, the abdominal organs, liver, spleen, kidneys, small and large intestines, mesenteric glands, brain and meninges, are all subject to invasion. As a rule there is little or no fever, but progressive emaciation and consequent enfeeblement. In some instances the disease commences acutely, as when the bronchi or lungs are the parts especially affected; manifest in acute bronchitis or broncho-pneumonia. The symptoms, however, gradually decline; frequently the condition follows whooping cough, measles, la grippe, and other acute infectious or exanthematous diseases. In other cases the disease develops gradually; its onset is very insidious, the child showing no other symptoms than those of progressive emaciation and weakness. Usually the skin is dry and frequently covered by fine scales or scabs. The ribs are prominent, the thorax thin, the eyes large and expressive, often unnaturally bright and animated. The liver and spleen are tumefied. The mesenteric glands frequently enlarged. The superficial glands are likewise enlarged and often hard. If cough be present it is usually dry, and the lungs present scattered areas of dullness, with bronchial rales and blowing breathing. The digestion is defective and the appetite poor. Diarrhœa is common, though it may alternate with constipation. The temperature may be subnormal and there may be fever, either constant or intermitting. The disease in fact may not exhibit any signs of activity until it has nearly run its course, when it will suddenly manifest itself either in the involvement or the meninges, the lungs or the intestines, one or all, at once or successively.

There are three maladies which in their attending cachexia closely resemble this disease. They are chronic gastro-intestinal catarrh, rickets and syphilis. Especially is this the case in the last named, for in syphilis the superficial glands are apt to be enlarged, though hardly to the same extent, and the liver and spleen hypertrophied. But there will be lacking the history, and in doubtful cases a course of antisyphilitic treatment will soon settle the question. Death is usually caused by some complication, either pyemia or acute meningitis.

Having thus very incompletely outlined some of the clinical features attending acute and chronic diffuse tuberculosis, I will now endeavor as briefly as possible to present some of those which more properly belong to the limited or localized disease. The opinion has been expressed by some eminent clinicians, notably Lasage and Pascal, that tuberculosis of the lymphatics may be in some cases congenital, and in others due to cutaneous tubercle. Their conclusions were doubtless largely founded upon the fact of the progressive character of the disease, involving, as it sometimes does, first one, then another collection or chain of glands. Large numbers of the external glands may be tuberculosis, indeed far advanced in the disease, before any of the internal viscera are affected. A child suffering from this variety of tuberculosis has but little fever, is usually bright and animated. The appetite is good, and in many instances even abnormal. There is no evidence of any disease either in the thoracic or abdominal organs. Digestion is unaffected. The excretory organs perform their work properly, but in spite of all this there is present the waxy complexion and other phenomena that indicate the cachexia. In some instances the glandular swellings attain a large size, remaining indurated until the end. One such case especially recurs to me now, occurring in my own practice; the cervical glands were the principal ones involved. When the child was first brought under medical observation, he presented aside from the enlarged glands, all the appearances of progressive cachexia. All the superficial glands of the neck seemed to be involved as were probably also many of the deep ones. The general collective appearance of the tumefied glands was such as might remind one of a cluster of large grapes. It was not deemed best to attempt their removal on account of the extent of the involvement and the greatly lowered condition of the system. These glands never softened, but remained hard and well defined globular masses throughout their course, some of them readily movable under the finger, others, by reason I presume of some local inflammatory process beneath or between them, not extending beyond the lymph formation stage, binding them more or less firmly to one another and the surrounding tissues, rendering them as separate and distinct masses unmovable. The child died from ex-

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haustion. There was from first to last no history of pain, except what little was caused by pressure and tension. His appetite was good, nor were there any symptoms indicating any disturbance whatever of any of the internal viscera. I cite this case because I regard it as, if not unique, at least uncommon. The usual history of such cases is either their final resolution, or softening and ulceration, involving in the process the overlying skin and resulting in an open indolent ulcer discharging a thin sero-pus with now and then flocculi of cheesy matter. When healing takes place the cicatrix is very significant.

The history of all glandular swellings, however, does not accord with this description. In some instances the trouble is acute, the growth rapid at the commencement and is characterized by pain and early softening. These instances, however, are infrequent. It is most usually a chronic process. The effect upon the individual suffering from this variety of tuberculosis depends upon the extent of the involvement and the points of special invasion. If it be the glands accompanying the vessels and nerves leading from the brain, there may or there may not be symptoms of compression, evinced in a partial stasis of the circulation, and partial or complete paralysis of the vagus, especially the recurrent laryngeal branch. The pressure signs, however, are probably rare even though the glands are considerably enlarged, and this applies to all parts of the body alike, though as touching this point there is a difference of opinion among our leading men. When the glands accompanying the trachea and bronchi become affected, which may occur, and usually does in continuity and extending to the most minute ramifications of the bronchi, it often gives rise to infection of the lungs and pleura. As a result of softening of the enlarged glands, perforations into the tube occur, and occasionally the vessels are likewise perforated. The principal clinical features, aside from the cachexia, that are manifest in involvement of the lymphatics of the thorax, are such as we would expect might be caused by compression, ulceration, perforation and infection of the lung tissue, which briefly are dropsy, cyanosis, hemorrhage, paroxysmal dyspnœa, laryngeal spasm and weakness, respirations with sibilant rales, and cardiac irregularity or at least changed heart sounds. Having already consumed so much time, we will forego further special consideration of the lymphatics.

There are few if any characteristic symptoms attending disseminated tuberculosis of the solid organs of the abdomen, as their functions are not materially impaired.

TUBERCULAR PERITONITIS.—There are several varieties or at least grades, of this disease; though they may all be more or less blended, still some one or another will be most prominent.

1st. In tabes mesenterica there is more or less matting of the bowels, ulceration, and cheesy degeneration of the mesenteric glands, giving rise to pain, wasting, tumid abdomen, diarrhœa, and frequently umbilical fistulæ.

2d. Where there is a general diffusion of miliary tubercles over the attached, and less frequently over the free, surface of the peritoneum, the clinical features are especially fever, pain and ascites; the later may be general, involving all the serous cavities, lower extremities, face and eyelids; in this variety the urine is always heavily charged with albumin.

3d. Cases in which for some time there has been noticed a certain degree of ill health, in which there is marked progressive emaciation, at times, severe griping pains, and a sense of fullness in the stomach. Upon palpatation there are found here and there irregular hard and fixed lumps in the abdomen, usually close to the abdominal walls. This variety is common, and is due to an extensive development of tubercle and inflammatory products in mass. These masses often occur in the omentum, causing it to thicken and contract, or curl, forming a thick band, which in some instances stretches across the upper part of the abdomen, in others between the diaphragm and liver, and in others dip down into Douglas' pouch, when a rectal examination will reveal them. When these masses are felt in other parts of the abdomen they are usually intestinal coils matted together with tubercular deposits outside the bowel, and this explains a clinical feature, that the tumor or tumors are ever varying in size and definition. In these cases there is seldom any great amount of ascites, though frequently considerable distention from gases; resonance is general, and there is tender-

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ness on pressure. There is no great increase of temperature, and the patient continues for some time without apparent change either one way or the other. Under proper hygienic conditions and medical treatment the general health often improves, and in some there is no doubt ultimate recovery occurs. This is described by Osler and others as the "chronic adhesive form."

4th. Abdominal abscess of tubercular origin. This class of cases is perhaps the most difficult of any to diagnosticate. What may seem to be tubercular may be a simple inflammatory process originating in the intestinal tract (as abscess of the appendix), or conversely what may appear to be a simple inflammation may prove tubercular, and the true condition will not be apparent until after an exploratory puncture, or perhaps not until the autopsy reveals it. The patient experiences the same sudden onset of pain as in simple intestinal abscess, perhaps not as severe; this is quickly followed by diarrhœa and vomiting, and rapid wasting of flesh. The temperature rises to 101° to 103°, the tongue becomes dry and often fissured, the lips parched. The abdomen gradually increases in size and becomes more or less tender to the touch. After a varying interval, usually about ten days, the diarrhœa often ceases and gives place to decided constipation, the temperature drops to normal, or even below, apthous patches appear in the mouth, abdominal dullness may be nearly complete. Where resonance occurs it does not shift with change of posture. Bimanual palpation may disclose a deep, fluctuating tumor, or the abscess may point open and discharge, at the umbilicus, or into the bowel; in either case recovery may occur.

The most constant and prominent clinical feature of tubercular peritonitis, whether it be acute or chronic, is the gradual increase in size of the abdomen, while in the acute there is usually more pain, fever and tenderness, with other spmptoms closely analogous to typhoid fever, so much so as to render the distinction extremely difficult. The acute are, as compared with those running a chronic course, less frequent. In the latter, it is often only after the abdomen has attained considerable increase in size that the parents become alarmed and bring the child to the physician. The age most liable to this disease is between three and and eight years, though isolated cases occur younger. The contour of the enlarged abdomen after the disease has progressed several months, shows a marked change from the natural rotund, presenting instead an elliptical curvature. The walls are tense and shining, the veins enlarged and showing through the skin like bluish cords. There is a gradual loss of appetite, and emaciation quickly follows. Colicky pains are frequently complained of from very early in the history of the disease, as well as tenderness to the touch, though in some instances these conditions do not exist. There may or there may not be ascites; palpation and percussion will decide this. If there be little or no fluid in the pelvis, then the distention is due to dilatation of the bowels by gas, which forces the diaphragm upwards, so that a tympanitic percussion note can be heard as high as the fifth rib. Peritoneal adhesions occurring may cause an encapsulation of fluids, so that a dull, instead of a tympanitic note is given in certain parts of the abdomen, which is not influenced by position. In cases of general tuberculosis, especially when the general symptoms are so prominent as to render it difficult, or even impossible, to diagnose the peritoneal affection, there has been absence of fluids in the pelvis, the intestines shrunken, dullness on percussion, and even retraction of the abdomen. Again the deposit of tubercles may be confined exclusively to the peritoneum, or the abdominal organs, and yet without any enlargement of the abdomen. In these cases there is entire absence of fluids. The loops of intestines are adherent to one another, and to the abdominal walls, while innumerable tubercles may be found in the peritoneum, intestinal mucous membrane, and mesenteric glands.

STOMACH AND INTESTINES.—The lesser curvature of the stomach, the lower part of the ilium and upper part of the colon, and the cecum are the parts most usually the seat of tubercle, and the symptoms depend upon the location and stage. At first there are no well defined symptoms, not in fact until an inflammatory process commences in the surrounding tissues. Diarrhœa is the most persistent and constant; the evacuations are brown and thin, and late in the course of the disease often extremely offensive; when

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ulcers occur the passages may be streaked with blood. Circumscribed peritonitis, usually of slight extent, occurs when the tubercles develop beneath the peritoneal coat. The condition is marked by tenderness, pain, and more or less distention. As a chronic diarrhœa may be due to chronic intestinal catarrh with follicular ulceration, and present the progressive emaciation, exhaustion, and other phenomena incident to tuberculosis, we cannot determine definitely whether the case in hand be one of tubercular origin or not unless the bacilli are demonstrated, or there are positive signs of tuberculosis in other parts of the body.

It is rather the exception for children under three years of age to have tubercular laryngitis, and ulceration of the larynx is extremely rare. This is considered due to the small amount of expectoration. Authorities differ as to the sputum causing tuberculosis of the larynx. Yet J. Lewis Smith and other equally eminent clinicians consider it an important factor. The results of a large number of necropsies made upon young children who have died of general diffused or localized tuberculosis have failed in a large proportion of cases to show either any deposit of tubercle in or ulceration of the larynx. After passing the third year tubercular laryngitis grows more frequent, increasing as age advances, until at twelve or fourteen years it is of as frequent occurrence as in the adult. When ulcers occur they are principally confined to the larynx, though occasionally found in the trachea. As the former on account of the irregularities of its surface, favors the retention of the sputa, these ulcers are usually superficial, small, sometimes round, at other times elongated, owing to their location. If in the folds of the mucous membrane, as around the vocal cords they are elongated. Their presence is indicated by a certain degree of dysphonia, and in some instances a complete loss of voice. And as this condition rarely occurs under three years of age, the presence of tubercle or ulcer in the larynx is almost never suspected, and as before stated rarely found.

Bronchitis, on the contrary, is frequently present. It is usually unilateral, being confined to that portion of the lung where the tubercles are most abundant, and is not infrequently accompanied by ulceration. In these particulars it differs from idiopathic bronchitis, as the latter is usually manifested on the two sides and without ulceration. The presence and pressure of a diseased lymphatic gland external to the tube, may give rise to a circumscribed inflammation of it, followed by ulceration and perforation.

THE LUNGS.—In early childhood the primary seat of tubercles is not so uniform as in the adult. All portions of the lungs are nearly equally subject to early invasion, the apices not more than any other. In a small proportion of cases, one in seven according to Rilliet and Barthez, the lungs have been found exempt from tubercles entirely, when they have been clearly demonstrated in other portions of the body. Inflammation due to softening of tubercle is usuully protracted, and may continue for months unless ulceration occurs, when the tubercular matter is eliminated.

The onset of tuberculosis of the lungs may follow or occur during convalesence from some one of the acute exanthematous or infectious diseases, and is most commonly in the form of an acute broncho-pneumonia. It may, however, occur in a previously healthy child. Fever, cough and dyspnœa are the most pronounced symptoms; fine sibilant and subcrepitant rales will be found wherever the process began, hardly more frequently in the apices than at the base or central portions.

Towards the end of the second week marked oscillations of temperature occur accompanied often with profuse perspiration. Emaciation progresses rapidly. We are often unable to determine whether the case is one of simple acute broncho-pneumonia or tubercular, and are compelled to depend upon the general aspect of the case. Tubercular deposits should be looked for elsewhere; the entire system should be carefully gone over and the sputa and fomites frequently examined. The disease runs its course in *from three to five* weeks.

THE CHRONIC FORM.—Like the acute, the primary lesion is in most instances a tuberculous broncho-pneumonia originating in the smaller bronchioles. The onset is not so sudden, but more so than in the adult. Pallor, progressive wasting and weakness, and diminished appetite are the earliest signs of failing health. Cough

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more or less persistent is also among the initial symptoms, at first dry but later becomes loose; is usually most troublesome at night and may be periodic, causing the parents to regard it as *whooping cough;* it lacks, however, the crowning inspiration. The sputum is mucoid at first, but purulent in the later stage. The fever is remittent during the early progress of the disease and slight in range; later, as softening takes place and cavities form, the exacerbations are greater. While the morning temperature may be normal or even subnormal, the evening may be 104°, or higher, with intense hetic followed by profuse sweating. The majority of cases pass through the disease without pain, and when pain is present it is usually due to a pleuritis. In the early stage there is frequently more or less dyspnœa due to the fever and bronchitis. There is frequently diarrhœa due to tubercular ulceration of the bowels, and occasionally general anasarca from anemia, cardiac and renal insufficiency, and the tubercular process. The most pronounced physical signs observable in this class of cases are the depressions in the subclavicular and intercostal spaces, the altered respiratory movements, and the general wasting. Tactile fremitus is increased over solidified areas if the bronchi are not stopped by secretion. There is seldom absolute flatness on percussion, though resonance is lessened, and even decided dullness occurs beneath the clavicle when the apices are extensively involved. Auscultation is unreliable, and often extremely defective, except when there is definite dullness. Then the change of respiratory sounds can be detected; the vesicular giving place to bronchial, and in the advanced stage the amphoric character of the rales and loud cavernous breathing indicate pretty positively the presence of a cavity, signs of which rarely occur in infants, but do in older childern.

THE PLEURA.—There are rarely any distinctive features indicating the independent involvement of the pleura, as it is nearly always associated with tuberculosis of the lungs. Full expansion, however, is prevented when, as occasionally happens, a coalescence of tubercle forms a firm layer on the visceral surface, in which case percussion gives a dull note, and the repiratory murmur is enfeebled. Pain is always significant, and, as in idiopathic pleuritis, the patient is easiest while lying upon the affected side, as this position tends to relieve muscular tension.

TUBERCULAR MENINGITIS cannot justly be called a local disease, but is a form of acute tuberculosis. In the majority of cases the onset is preceded by a prodromal stage varying in duration from a week to several months. Authorities, however, agree that the average is about two weeks. During this time the child becomes emaciated, the extent depending upon the length of the period. It is often impossible to determine the cause of wasting, as in many cases there is entire absence of any disturbance of the general condition. But in a large proportion of cases there are certain indefinite symptoms that indicate the progressive development of tubercles in different parts of the body. The child loses his natural cheerfulness, becomes fretful and peevish. His sleep is disturbed; his appetite though not entirely lost is capricious; his playmates and toys amuse him at intervals for a short time only, when he turns from them; he is easily fatigued, and there is some febrile disturbance; his forehead is often corrugated, and he either closes his eyes or turns his face to the wall as though the light annoyed him.

Occasionally the outbreak of the disease is abrupt without any premonitory symptoms, when there will be little, if any, emaciation. The disease proper commences suddenly with vomiting, sometimes of the propulsive and sometimes of regurgitive character, and if the child is old enough he will complain of headache, more especially in the forehead. All the symptoms enumerated in the prodromal stage continue and are increased in intensity. The bowels become constipated and are not readily moved by laxatives. The similarity between these early symptoms and those characterizing gastric and typhoid fever in their early stage is very close, and it is impossible in some instances to differentiate between them. By the seventh to the ninth day, however, other symptoms manifest themselves which render the diagnosis comparatively easy; among these are the change in the rate and quality of the pulse, which has become somewhat slower and irregular, and the individual beat show some difference in force and volume, while at the same time there is oft repeated deep sighing.

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This circulatory condition may only be observed temporarily, but it is regarded by some as decisive, as there is no other disease in childhood wherein the pulse varies to such an extent. Variations of temperature have little if any effect upon it, but any slight movement may immediately increase its rapidity twenty or more beats per minute. The pulse varies in frequency from 100 to 120, and may go as low as the normal adult. Irregularity alone may occur without the slowness, but such cases are rare. This condition of the pulse usually continues until about the middle of the second week, when it becomes more frequent, weaker and rhythmic. Vertigo is occasionally present; the child thinks he is constantly falling, and implores the attendant to support him. The listlessness and somnolence gradually increase, interrupted now and then with short periods of nervous unrest, shrieks, or wild delirium. If at this stage he is thoroughly roused, the mind seems clear. Indifference to interference and disappearance of fretfulness, that characterized the early stage, are a bad omen, and are apt to obtain now. About the middle of the second week, sometimes earlier, certain nervous symptoms commence to manifest themselves. (As tubercular meningitis is most frequently basilar, and as portions of the cerebral nerves lie at the base of the brain, the reason of their functional impairment in disease is obvious.) The manifestations of an inflammatory action at the base of the brain are principally strabismus and grating of the teeth, and occasionally a clonic spasm of the muscles of the back of the neck, causing a slight retroversion of the head.

The surface is generally pale, but marked by the sudden appearance upon the face, forehead and ears, of fugitive red spots, varying in form and size, some round, others irregular, and from an inch to an inch and a half in diameter. These are of a bright red color, and after continuing a few minutes disappear. The surface temperature changes quickly without appreciable cause. The finger pressed and drawn across the skin leaves a red mark, which fades slowly. Trousseau regards this as a strong diagnostic sign. The tongue is moist, and there is seldom much thirst at any time during the progress of the disease. Coma follows the increasing somnolence until finally there is complete unconsciousness; the child lies with lids half-closed, sighing from time to time, or giving utterance to the "hydrocephalic cry." The pupils become irregularly dilated, and respond feebly, if at all, to light. In some, at first the only perceptible change may be an irregularity of the size of the pupil, in others oscillation of the iris. Later, after convulsions, the parallelism of the eyes is lost, and in most patients, they are directed upwards. As the end draws near, flakes of mucus collect and obscure the cornea, especially that portion not protected by the lids. Hearing becomes obtunded; the contractions of the neck become more rigid; automatic movements of the limbs develop; the bowels move involuntarily; the abdomen sinks; the pulse increases in frequency, and steadily diminishes in force until imperceptible; the sighing inspiration gives place to the "Cheyne-Stokes" phenomena, which may commence twenty-four to forty-eight hours before death. The number of respirations may be reduced to seven or five per minute, and this, with cardiac weakness, explain, the cyanosis so generally present at this period. Epileptiform convulsions affecting one-half or the entire body frequently occur during the last forty-eight hours. Or it may be manifest only in twitchings of the muscles of the face. The last stage of the disease, in which there is so much agony, not only to the patient, but to the parents, is often long, extending in some instances over several days, and during this time it is not unusual for the child to regain consciousness. He recognizes those about him, takes nourishment, and may even notice his playthings, but soon relapses and dies in convulsions, or in collapse, in two or three weeks from the commencement of the disease.

The Route for Uterine Removal.

BY BYRON ROBINSON, B. S., M. D., CHICAGO.

During the past two years we have removed the uterus per abdomen and per vaginum for bilateral disease of the appendages and metritis about eighty times. Over one-half of the number were removed per abdomen. We have employed both methods systematically for these two years to test the methods which are not only applicable to each case, individually, but which will produce the best results. These remarks do not

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refer to hysterectomy for myoma or cases where we removed the appendages and ligated the uterine artery at the internal os.

First, we have practiced the removal of the uterus for bilateral disease of the appendages for two years in all cases not showing a contraindication. Second, also the removal of incurable metritic uteri.

We claim that the woman is better off with the metritic uterus out, at least, as far as the internal os, when the appendages are removed. Also, that large, thick-walled metritic uteri once fully established are seldom cured, and that whenever such a patient becomes afflicted with pain, dragging, so as to render life uncomfortable, that she is far better off without such a uterus. Chronic metritis is the most frequent and persistent disease of woman.

Now, after the decision is made that a uterus and its appendages should be removed, it is an important step to determine the best route. After one has removed fifty uteri per abdomen the practice will enable him to do the work well in thirty minutes, *i. e.*, to ligate intra-peritoneally both ovarian arteries; strip the peritoneum down on the uterus, ligate, extra-peritoneally, the uterine arteries; amputate the uterus just below its internal os, and cover the stump perfectly with peritoneum.

We used silk, linen or cat-gut to do the intra-peritoneal work, and closed the abdomen with silk worm-gut. Evil results may follow this method. First, 3 % to 6 % of hernia is liable to follow. Second, in 6 % to 8 % the silk or linen ligatures will suppurate and attempt to make their way out inside of a year. Many ligatures will not be heard of for six months and then produce distinct pathologic symptoms. Otherwise, abdominal hysterectomy, leaving the cervix, is an excellent operation. But none like herniæ and fistulæ continually reminding them of defective surgery.

Now, the vaginal route requires considerable practice, and is harder on the operator, but if it is done a few times on the cadaver and then the cadaver each time immediately opened to see what damage has been done, its technique is gradually acquired. To illustrate, however, by an actual occurrence which concerned a Chicago surgeon, it may be known that it is very easy to damage viscera in vaginal hysterectomy. The late Dr. Tanquary, professor of anatomy in the P. and S. College of Chicago, was one day talking to a young surgeon who was just about to do a hysterectomy. Professor Tanquary, knowing that the young surgeon had not previously performed the operation, suggested that he had better do it on a cadaver first. Dr. Tanquary furnished the surgeon with a cadaver, and he removed the uterus per vaginum, announcing his satisfaction at the results of the operation. "But," said Dr. Tanquary, "let us open the abdomen of the cadaver to note whether you have done any visceral damage," but the surgeon said he thought he had not. Imagine the surprise when, on opening the abdomen of the cadaver, an aperture was found in the bladder, one ureter was found ruptured and several holes in the small intestines were discovered. This, as an actual case, shows that training and practice is required to successfully perform vaginal hysterectomy. The method we assume is to insert a strong ligature into the os to steady and pull down the uterus, after well packing the uterus with bichloride gauze. Then make a circular incision around the neck through the vaginal wall. The bladder and rectum are stripped from the uterus up to the peritoneum. The peritoneum is then opened, the index finger pushed from behind through the broad ligament above the uterine artery, which is then tied on both sides with silk. A pair of medium-sized forceps now seizes each uterine artery between the applied ligature and the uterus. The uterus is then cut away with the scissors on each side above the internal os. We then rotate the fundus of the uterus forward or backward, pulling down and ligating the ovarian arteries. A medium-sized forceps is then applied on the distal side of the ligature on the ovarian artery, and the scissors cuts away the tubes and ovaries. We have now two ligatures and two forceps on the uterine arteries and two ligatures to two forceps on the ovarian arteries. The vaginal edges are now brought together in the middle by a couple of small forceps or a couple of stitches, or they are left entirely alone. Finally we pack the vagina with iodoform gauze. The forceps are removed in thirty-six hours and the gauze on the third or fourth day, when a daily douche of a

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quart of water is administered. The ligatures are pulled away in from ten days to two weeks. Some ligatures may remain longer. In three weeks the patient is ready to go home. There is always one-half to two degrees of temperature on the fourth to the tenth day as the ligatures slough away, *i. e.*, the stumps necrose or decompose. The pain of the operation is generally severe for about thirty-six hours, when the rest of the convalescency is quite comfortable. The odor is considerable from the sloughing of ligatures, which can be controlled by carbolic (3%) douche. Free dainage keeps up for three days, saturating well the dressings. In our cases the vagina heals to a cone, and is not shortened, but so far as I can trace the cases it elongates. None of the cases have shown vaginal herniæ. The patients in general recover after vaginal hysterectomy like women after delivery—quite easy. Herniæ and fistulæ from ligatures are fortunately so far wanting in vaginal hysterectomy. Drainage is ideal in vaginal hysterectomy, and is facilitated by forceps. The forceps are used for safety and to keep the ligated stumps well down into the vagina. Ligatures are used to insure safety. In the use of clamps alone one surgeon reported three deaths from hemorrhage in this city the past three months.

In performing these operations Dr. Lucy Waite and myself alternated in operating in the majority of the cases.

After two years in hysterectomy per vagina and per abdomen, we generally prefer the vaginal route for the following reasons:

1. The vaginal hysterectomy avoids herniæ and fistulæ from ligatures.

2. The recovery is smoother and more certain than abdominal hysterectomy.

3. The shock of operation is small in vaginal hysterectomy.

4. Abdominal hysterectomy is eaiser on the operator, but vaginal hysterectomy is easier on the patient.

5. Drainage is perfect in vaginal hysterectomy.

6. The patient can walk about sooner than in abdominal hysterectomy.

7. Generally vaginal hysterectomy can be completed inside of thirty minutes.

Bacteriological Review—A Study of the Bacillus Coli Communis.

LAWRENCE HOPKINSON, MILWAUKEE MEDICAL COLLEGE.

The importance of a thorough knowledge of the life history of the bacillus coli communis alike to the physician and surgeon is self-evident when we consider its wide range of action, both as a pathogenic and non-pathogenic agent.

Its comparatively recent discovery is probably the reason why that even in most of the best text books up to 1892 or 1893 little or nothing is said about this germ.

Bacillus coli communis (Escherich) was first discovered in 1885. It was reported to have been found in the discharges of cholera patients at Naples, since which time it has been found in normal dejecta. Bodet and Roua found this bacterium in water of localities where typhoid fever was prevalent, and it has been constantly observed by Escherich in the intestinal canal of suckling infants.

Many bacteriologist believe that the bacillus fœtidus, found in peri-rectal abscess, and the bacillus coli communis are one and the same germ.

It is found outside of the body, both in the air and water and in putrefying fluids. By some authorities its presence in water is a sign of its contamination by fæcal matter.

The constant appearance of this germ in diarrhœal discharges and its near relation to the typhoid bacillus has caused a more thorough study of it.

More recently investigators like Frænkel, Roswell Parks, Levi, etc., have shown its importance in septic and suppurative diseases.

The form differs in various media, but it may be described as a short rod, closely resembling the typhoid bacillus (no spores have as yet been discovered), 2 or 3 μ in length and from 0.4 μ to 0.6 μ in breadth. It may grow in chains, but as a rule it is found in pairs. The organism possesses numerous cilia, of sluggish motility and is a facultative anærobin. In the absence of oxygen in saccharin solutions it generates a gas, consisting of hydrogen and carbon dioxide. Gelatine is not liquified by this germ, the colonies having a tendency to spread out over the media in a thin, superficial film. They show a dull white colony and an irregular border. In stale cultures white buttons develop along the needle tract and a del-

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ficate film on the surface. The colonies on potatoes are yellow and juicy, over which later a white layer appears. This germ produces acid fermentation in milk, and may live in both acid and alkaline media. Like the bacillus typhus, it can also develop in carbolized gelatine and withstand a temperature of 45° C. without its growth being destroyed.

According to Gasser, an agar medium tinted with fuchsine is decolorized only by this bacterium and the bacillus of typhoid fever. Buchner found that water containing 100,000 elements of bacillus coli communis per CC. yielded no growth after an hour in direct sunlight.

It is stained by all the ordinary stains, but is decolorized by Gram's iodine solution.

It has been experimented with upon animals with varying results. A culture taken from the normal intestines injected into rabbits and guinea pigs produced no results, but pure culture from intestinal ulcers injected into the same class of animals, death followed in from two to three days, the symptoms being those of diarrhœa and coma; after death tumefactions of Peyer's patches and other parts of the intestines; perforation of the peritoneal cavity, the blood containing a large number of germs.

When the alimentary tract is in its normal condition this bacterium, like many others, is doing its legitimate work, that of reducing complex into simple bodies; but let those conditions arise which in any way lower the vitality of all or any part of that tract the resisting power of the otherwise impervious mucus membrane is lost, then the bacillus coli communis, with others or alone, begins its destructive work.

This bacterium in its less virulent form may be only an aid to other specific bacteria, as its presence in cholera and typhoid fever show. But if there be a marked lesion in the intestines it becomes a most virulent germ, and getting into the peritoneal cavity, or into any other organ other than its normal habitat, it is capable of setting up an active and grave septic or suppurative processes.

These various phases of action in some way explain why it may be found in organs seemingly far away from its normal harmless position.

Frænkel found it one of the most important organisms in suppurative and septic peritonitis, and in a majority of cases it appeared as a pure culture. Livy found pure cultures in the peritoneal fluid and in the secondary broncho-pneumonia of two patients who died of strangulated hernia.

Livy also obtained pure cultures from an abscess of the liver and lymphangitis of the arm.

It may often be found as a nidus for the formation of gall stones. Richardson found pure cultures in fulminating appendicitis with perforation of the appendix.

The bacillus has also been found in anal abscess and in the urine in cystitis.

Bartacci has recently shown that in nearly all cases of perforating peritonitis in man, and experimentally in animals, the bacillus coli communis is the only organism to be obtained by culture. a number of other bacteria being found in the extravasated fluid, but these are unable to exist in the presence of this germ.

That which interests the physician most is the differential diagnosis between this germ and the bacillus of typhoid fever.

Both these germs are similar in their growth on gelatine and in the carbolized nutrient media; both alike decolorize the agar stained by fuchsin, and are stained by same staining fluids, decolorized by Gram's iodine solution. When stained under the microscope it is almost impossible to see the difference.

But still there are points in which they differ materially.

In hanging drop the B. Coli Co. is sluggish, whilst the B. of typhoid fever is very motile.

The growth on potatoe is one of the most important differences between these two germs. The typhoid bacillus' growth is that of a clear, transparent film covering the surface of the media, almost so clear as at first sight to be unnoticed; whilst that of bacillus coli communis is, as before stated, yellow and juicy, and afterwards a white film, more or less restricted to line of inoculation. Again the bacillus coli communis has the property of producing acids in milk and the gasogenic action upon saccharine susbtances, both of which properties are not possessed by the bacillus of typhoid fever.

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Section on Ophthalmology, College of Physicians of Philadelphia.

A stated meeting of the section on Ophthalmology was held in the lower hall of the College of Physicians, on 17th of December, 1895, Dr. Wm. F. Norris, Chairman, presiding. Present: Drs. Friebis, Hansell, Harlan, Norris, Oliver, Shaffner, Thomas, Thomson, and Zentmayer, Fellows of the College; and Drs. Chance, Krauss, Perrine, Shoemaker, Sulzer, A. G. Thomson, and Ziegler as guests.

Dr. Geo. C. Harlan made some remarks upon the so-called "Corneal Reflex" seen in ophthalmoscopic examination by the direct method. Dr. William Thomson stated that he was very much interested in the paper, having made some experiments with both convex and concave lenses upon distant points of light, and had been able to obtain a series of both interesting and valuable entoptic phenomena by the use of artificial eyes or any small object with a small radius of curvature which was about equal to that of the human eye. He had been able to discover slight corneal haze and lenticular opacities. He considered that the method was of clinical value in determinations regarding the transparency of the various media of the eye.

Dr. Howard F. Hansell spoke of the entoptic appearance of vitreous opacities in uncorrected myopia; these totally disappearing when proper corrections are placed before the eyes. Dr. Charles Shaffner considered that some entoptic phenomena seen in myopia might be dependent upon disturbances situated in the intra-ocular circulation producing a low grade of engorgement and inflammatory reaction, and that vitreous opacities so caused, disappear only gradually or not at all.

Dr. Charles A. Oliver read a paper upon the "Therapeutic Value of Hydrobromate of Scopolamine in Plastic Iritis," in which he showed that for quick and active measures, which are so necessary in the incipient cases of this form of disease and during the early stages of inflammatory reaction, the drug is very important; but where prolonged use is necessary, as in many cases of the chronic form of the disease with subacute exacerbations, the good effect does not seem to be so lasting. For these reasons, he has learned empirically to depend upon the drug where prompt action is necessary, but where more permanent effects are desired, he alternates its use with that of atropine. This was discussed by Drs. Hansell, Harlan, Thomas and Shaffner, who inquired as to its relative value as compared with other mydriatics. Dr. Friebis spoke of the general effects of several of the stronger mydriatics. To these queries, Dr. Oliver replied that in the dosages in which he had employed the drug, he had never seen any symptoms of poisoning, although in several of the cases in which he had used it freely, there were, at times, giddiness, inco-ordination of movement and drowsiness. In regard to the question of intra-ocular tension, he intended to perform a series of experimental researches and to make a relative study of the other mydriates with which the drug has been usually thought to be associated, or, in fact, considered identical.

Dr. Charles Hermon Thomas exhibited the latest and most improved form of Stevens' Tropometer, by which a magnified view of the cornea appears against an illuminated scale, thus allowing an observer the exact register in degrees of arc measurement of the movement of the cornea across the scale from any definite point, thereby giving an index, as it were, of the length of excursion that is performed by any series of extra-ocular muscles in order to obtain the extremes of motion in either the horizontal or vertical meridians. He considered the instrument of value in the estimation not only of the manifest and the latent types of heterophoria and heterotropia, but of value in the recognition of paretic conditions of the muscle groupings.

Dr. Thomson related a brief history of a case in which the instrument evolved an absolute distinction between the directions of faulty action in a vertical strabismus which could not be determined in any other known way. Dr. Thomas gave the details of a similar case, and stated that he had received a letter from Dr. Geo. T. Stevens in regard to the liability of error in the reading of the measurements that is apt to arise unless the eye is absolutely primarily fixed upon the point of fixation; this, however, he had in a great measure provided against by change in instrumentation, whereby the head of the patient is kept almost motionless by clenching a removable wooden bit between the teeth.

Dr. William Zentmayer exhibited a case and showed a drawing of a cilio-retinal artery in which the two main branches extended into the macular region. The section then went into executive session. Upon motion, adjourned.

CHARLES A. OLIVER,
Clerk of Section.

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COMMUNICATION.

MILWAUKEE, March 19th, 1896.

To the Editor of the Milwaukee Medical Journal:

DEAR SIR—In the March issue of your esteemed journal I find several opportune remarks on superstition and healers. Although your statements are relevant, it appears to me that these subjects require a more thorough elucidation; they certainly exact more attention than is, as a rule, bestowed upon them by physicians. It is not my intention to pose as an instructor, but upon reading the editorials in your issue of March, a few ideas arose in my mind, to which I am desirous of giving vent. But I hope you will excuse me for imposing upon your valuable time and space.

Why has the "bright white light of science penetrated but a short distance into the dense fog of superstition?" Why does "the heart of hearts of the masses still cherish beliefs popular generations ago?" These are pertinent questions it appears to me. Superstition is, of course, only attributable to a lack of knowledge. Ignorance and superstition always accompany each other. The masses are ignorant, hence they are superstitious.

Superstition, for convenience sake, may be divided into two forms or classes, viz., the crude and the more refined. Under the crude form may be classed, for example, the belief in ghosts, witchcraft and sorcery. But it would be a grave mistake to suppose that only the most ignorant cherish these beliefs; people of some education believe in ghosts, sorcery and the like. What, then, shall we say of the more refined forms of superstition, under which head may perhaps be classed spiritualism, the belief in the supernatural, and the belief that certain natural phenomena, such as mind-reading, clairvoyance, table-talking, etc., are due to supernatural influences? We will find that the majority of us are still under the ban of some form of superstition; yes, highly intelligent people are frequently found to be superstitious.

> "Superstitious prophesies are not only the belief of fools, but the talk sometimes of wise men."—*Bacon.*

Nevertheless, superstition, or the belief in the miraculous, is due to a lack of knowledge—to a lack of knowledge of nature, of natural phenomena. As our conception of nature expands, so superstition and the belief in the supernatural vanish.

The inference is that the study of nature should become more general; it should be taught in all schools and churches. If the clergy would preach more of the natural and less of the supernatural, mankind would be more benefited.

Physicians may think it curious that people, both literate and illiterate, flock to a Schlatter, or seek the advice of a medium or magnetic healer. There is positively nothing curious about this. But what is curious, is that a great many physicians do not seem to comprehend that a Schlatter, or a magnetic healer, is able to cure disease. Perhaps it is not going too far to say that of a given number of non-surgical cases a magnetic healer will cure the same percentage as will the most learned physician. (Acute cases are, of course, excluded.) I do not wish to be understood as being opposed to the use of medicines, but what I do wish to say is that physicians too frequently ignore the value of psychical influences, and that the good effects we attribute to our medicines are oftentimes the resultant of psychical impressions. We are only too prone to overlook these facts. In the physicians' report of cures wrought by the use of certain drugs this important factor seems to be regularly overlooked or ignored.

There is not a physician who can deny the importance of the mental state of his patients, and every physician is aware of the fact that more favorable results can be obtained if he possesses the full confidence of his patient. It renders the physician light at heart and more confident when he knows that his patient trusts, and has faith in him. On the other hand, every practicing physician is cognizant of the fact how difficult it is to treat an obstreperous and mistrustful patient. No physician can dispute these facts; still we are wont to ignore them.

If we once comprehend the import of psychical influences, we will no longer think it curious that diseases are cured by the laying-on of hands, by magnetism and by sorcery. If physicians would avail themselves of this important factor in the treatment of disease, and would educate the public accordingly, the charlatan's field of operation would necessarily undergo atrophy.

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It is a clinical fact, and has undoubtedly been observed by all physicians and surgeons, that a psychical impression may have a most extraordinary influence upon the course of a disease. We all know what a powerful effect mental impressions have upon us even in perfect health; why, then, should not these same influences affect our patients? The truth is that in disease, the will-power being reduced, the human organism is more readily penetrable by psychical means than in health. I have this very day produced an evacuation of the bowels by purely psychical means, and I have accomplished this a number of times. This may appear incredible to a great many of my colleagues, but, permit me to state that there is absolutely nothing curious nor incredible about it. It is a simple process, and is a most natural and rational mode of treatment; but one must understand the influence of the mind upon the body.

Our medicines do not always act as we surmise. The effects we obtain from our remedies are oftentimes due to mental instead of physical impressions. This statement is applicable to all methods of treatment and is illustrative of the fact that 1/10,000 gr.-doses will frequently be as beneficial as one-grain doses of the same remedy. So there is something in homœopathy after all, although there be nothing in the granules. In my estimation, it would injure nobody and would be of vast benefit to a great many sufferers, if our esteemed colleagues would pay just a trifle less attention to ovariotomy and the minutiæ of the sphenoid bone and give a very small portion of their valuable time to psychology.

To those who have paid no attention to psychology, it will appear absurd to say that a mental impression is capable of both producing and relieving a pain; nevertheless, it is a fact and one which every physician has occasion to observe almost daily. A few weeks ago I had a case of retroflexion, which disorder was causing the patient considerable pain and distress. I placed the patient in the genu-pectoral position and replaced the organ without seemingly causing the slightest pain, in fact, this treatment gave her immediate relief. I then told my patient that a pessary would be required to retain the womb in position, and that I would come on the following day and introduce the supporter. But my patient had a horror of this terrible instrument. Sometime during the night the uterus again became displaced and the former distress ensued. So, upon the following day, I once more placed her in the knee-chest position and proceeded to reduce the displacement, the patient being under the impression that I was introducing that horrible instrument; she immediately began to complain of pain, which pain she attributed to the pessary. Directly her sufferings became so intense that I was obliged to desist, and she urged me to remove the pessary, for the pain was unbearable. But upon showing her the pessary, the pain immediately ceased. The idea that an instrument which might do her much harm, had been introduced, was sufficient to give rise to pain. Now, these cases are of common occurrence and every physician has met with them, nevertheless, we will persist in ignoring these facts.

We can readily perceive that a psychical impression can either produce or give rise to a pain, if we will remember that the seat of pain is not in the arm, leg, stomach or womb, but in the sensorium (basal ganglia). And, furthermore, it is an undisputable fact that any and every organ and region of the human organism can thus be influenced, the vegetative organism being as readily susceptible to psychical influences as are the organs of animal life.

Our remedies always exert a psychical as well as a physical influence and it, therefore, devolves upon us to discriminate between the two. We should not permit ourselves to be deceived. The good effects obtained by the Koch lymph were undoubtedly of a psychical nature; but in this case the mental effect was greater in the case of the physician than in the case of the patient, the remedy acting in the manner of a boomerang. So we observe that we, as well as our patients, are highly susceptible to psychical impressions.

Psychology should be taught in every medical school. This highly interesting and important study is at present almost wholly neglected, at least in this country, and, consequently, there is left a vast field for the exploitations of the charlatan. The public should also be enlightened upon these matters and charlatanry would soon

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be reduced to minimum. Physicians are, in a measure, responsible for charlatanry.

Sincerely yours,

DR. GEO. JURSS.

Funeral of Dr. Bishop.

The remains of Dr. Dennis D. Bishop, the young physician who died on April 1 at the Presbyterian Hospital, Chicago, as a result of an unsuccessful operation, will be taken to Reedsburg, Wis., for burial. Although barely four years had passed since he received his diploma from the Rush Medical College, Dr. Bishop's position in the medical profession gave promise of a brilliant future. He was ill but a short time before his death, and was taken to the Presbyterian Hospital upon the solicitation of Dr. Fenger, who conducted at the operation for appendicitis performed the following day. Dr. Bishop's death had been expected for several days.

Dr. Bishop was born in Reedsburg, Sauk County, Wis., December 8, 1862. He left his father's farm at the age of 14, and served an apprenticeship in pharmacy at Grand Rapids. He was also employed in the county clerk's office at Grand Rapids in the department of registry. For two years he studied medicine in the office of Dr. Byron Robinson, of the same place, and then attended the University of Wisconsin. He graduated in pharmacy and also took a preparatory course in medicine. In 1889 he came to Chicago to attend Rush Medical College, where he completed his medical education in 1892. He served as an interne at the Cook County Hospital until he was appointed dermatologist. Rush Medical College also bestowed upon him the chair of histology. His clinics and lectures as dermatologist at the Woman's Medical College were always largely attended.

Shortly after graduation he received an appointment as attending pathologist for St. Elizabeth's Hospital, which position he held until his death. His popularity among the students of Rush Medical College and the practicing corps of Cook County Hospital was unquestioned. He was an Episcopalian. His practice at 1331 West Van Buren Street, where he lived, was extensive. —*Milwaukee Sentinel.*

MISS HICKSON, of Trinity Hospital Training School, goes to Dartford to do private work for Dr. A. Z. Howard for a short time.

Care Necessary in Making the Diagnosis "Sciatica."

Schreiber calls attention to the fact that in older persons who apply for relief from the symptoms of sciatica, the disease may sometimes be caused by some new growth in the pelvic cavity, which exerts pressure upon the sciatica nerve. He relates the case of a physician suffering from severe double sciatica, who consulted him, for the purpose of mechanical treatment. The patient was 57 years old, and presented the typical symptoms of sciatica; his extremely anemic appearance, however, and the rapid loss of flesh and strength, caused Schreiber to suspect the possibility of the presence a malignant neoplasm in the pelvic cavity. An examination per rectum was made, and a hard extensive tumor spreading toward the right side could easily be felt immediately above the sphincter ani. Consequently, mechanical treatment was out of the question; the pains increased in severity, and not many weeks later the patient died. This case demonstrates that in older persons presenting the symptoms of sciatica, a careful examination of the pelvis both externally and per rectum is indicated to arrive at positive diagnostic conclusions. It is quite possible that, if an examination and diagnosis had been made early enough, an operation might have been followed by improvement or cure.

In regard to the mechanical treatment o sciatica, a large number of observations have shown that if cure is not effected after treatment covering a period of six weeks, the symptoms of sciatica are due either to a commencing tabes dorsalis, to a new growth in the pelvic cavity, or to a swelling of the bone at the great sacrosciatic foramen, the point of exit of the sciatic nerve.—Dr. J. Schreiber in *Wein klin. Wochenshrift; Amer. Med. Surg. Bull.—Medical Review.*

TRI-STATE Medical Society, of Iowa, Illinois and Missouri, meets in Chicago, April 7, 8 and 9, 1896, at club rooms of Great Northern Hotel. The public address will be given by Dr. J. M. Mathews, of Louisville, Ky., in Handel Hall—Subject: "Some Needed Reforms in the Medical Profession."

Surgical clinics by Drs. Senn and Murphy, Gynecological clinics, Drs. Etheridge and Henrotin, and a long list of valuable papers by the bright lights of the Tri-State Society. Our Wisconsin physicians should not fail to attend.

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MILWAUKEE MEDICAL JOURNAL.

A Monthly Journal of Medicine and Surgery.

Contributions are respectfully solicited from members of the profession, in good standing, in all parts of the world. All original articles when written exclusively for the JOURNAL will, upon publication, be paid for in reprints or in extra copies of the JOURNAL. Authors desiring their articles illustrated must furnish drawings or photographs from which the illustrations will be made without further cost to the contributor. Address all matters for publication or review to the editors,

W. H. EARLES, M. D.
W. H. NEILSON, M. D.

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MILWAUKEE, WIS., APRIL, 1896.

Commencement Exercises of the Milwaukee Medical College and School of Dentistry.

The commencement exercises of the Milwaukee Medical College and School of Dentistry were held on the evening of the 24th of March, at the Pabst Theater.

A class of thirteen young men were graduated from the Medical Department and six from the School of Dentistry. This being the second class graduated from the institution, it is to be congratulated on so splendid a showing. That the efforts of the college are appreciated by the townspeople was amply manifest by the audience which packed the magnificent new playhouse from pit to gallery, many not finding seats and still many more not able to gain admission. That the exercises were in keeping with the expectations of the audience was evidenced by the applause liberally given. A feature that was duly appreciated was the entrance of that portion of the under-classmen still in town, headed by a drum corps. Led by their marshal, Mr. A. Sidler, class of '97, decorated with the college colors, they took their places immediately back of the graduating class, which arose to receive them. When all were in position the college yell was given with a vim that was somewhat startling to those unaccustomed to the strength of lung of college students. After music by the orchestra and an organ recital by Professor Drobeg, which was exceptionally fine, the exercises were opened with prayer by the Rev. Mr. Hunsberger. Hon. W. C. Williams, one of the trustees of the college, then made a spirted address replete with wit, sage advice and scholarly comment. He congratulated the students, the faculties and the city on the advantages of such an institution as the one represented. Mr. Dewey delivered the valedictory in a graceful and impressive manner. His theme was the controlling influence of a Higher Power in all development, and was scholarly elucidated. Then followed the conferring of degrees by Professors W. H. Earles and B. G. Maercklin, deans of the respective departments, assisted by Professor B. A. Brown, the secretary. The successful candidates for the M. D. degree were: J. E. Barnstein, A. H. Broche, A. H. Cohn, Ph. G., G. W. Dewey, B. Frankson, Ph. G., C. S. Jones, A. H. Machleith, O. F. Partridge, F. J. Phipps, D. D. S., L. J. Toussaint, D. V. S.; C. S. Wassweiler; and for D. D. S. degree, H. P. Hoehl, J. H. Jones, A. Luethe, Ph. G., E. E. Shuster, F. M. Theisen, H. V. Taylor; while on two gentlemen, V. A. Gudex, M. D., D. D. S., and George V. I. Brown, M. D., D. D. S., were conferred the degree of C. M. After the conferring of degrees, a delegation of students, fairly burdened with flowers, marched down the aisle to the stage, where they delivered the sweet offerings of the many friends and admirers of the newly created doctors. Professor Neilson then delivered the doctorate address, the burden of his thought being "Progress."

After the closing of the exercises the faculties, graduates and invited guests repaired to the Plankinton, where mine host King maintained his reputation as a caterer to the wants of hungry medicos. After the completion of the excellent menu, Dr. Neilson made a short address of wel-

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come, where welcome was not needed, for every one felt he was more than welcome. Dr. Earles, as toastmaster, introduced the various speakers in such a way as to put them at their best, and their best was certainly very good. Dr. Evans, of Chicago, was in his usual happy vein, and made his hearers enthusiastic on the subject of "Our College." Rev. Hunsberger, on the "Relation of the Doctor to the Church," thought that the relationship was rather distant at the best, the majority of him was only a brother-in-law, his wife being a sister to the church. However, he hoped that the relationship would be ever closer and eventuate in the doctor being a "brother" to the church. His address was replete with good things, as becomes a minister. Lawyer Killilea, on "Our Nearest Neighbor, the Lawyer," did not go back on his reputation in the least, and, now pathetic, now gay, made a decided impression. Mr. Campbell, of The Evening Wisconsin, on "Forbidden Fruit" (the press), made some telling hits, which were enthusiastically received. "The Doctor and the Dentist," by Dr. G. V. I. Brown, of Duluth, were handled in his best style, which is saying a good deal, and Dr. Wassweiler on the "Class of '96," was both humorous and witty. Besides the set toasts, impromptu remarks were made by Dr. B. G. Maercklein showing the advantages of liberal general education, which were both timely and appropriate, and by Dr. Chittenden, of Madison, president of the State Board of Dental Examiners. Besides these, the banqueters were favored by a humorous tilt between the law and the gospel, as represented by Mr. Williams and Mr. Hunsberger, in which the gospel seemed to have the better of it, and it was edifying to see the representatives of both, in so many ways antagonistic, walking home arm-in-arm. Altogether the event was an enjoyable and memorable one, amply demonstrating that it is not necessary to have wine to increase the flow of wit and increase good-fellowship. The college has had a most prosperous year, and the outlook for the future is most encouraging. If the same energy, good hard work, good judgment and enthusiasm persist in the future as it has in the past two years it will stand well to the front, with the medical and dental schools of the land. It is no longer an experiment, but has demonstrated amply its right to existence.

Annual Banquet of the Leeuwenhœks.

The Leeuwenhœk Society held its annual banquet at the Aberdeen, on the evening of Saturday, the 21st of March, the occasion being made more impressive and enjoyable by the conferring of diplomas of fellowship on Dr. A. E. Henslim, of Le Roy, Minnesota, and Dr. V. Gudex, of Milwaukee, both graduates of Milwaukee Medical College, class of '95.

This society has for its object the development of the scientific spirit among its members.

Originating among the students of the school, membership does not terminate with graduation. As an especial mark of honor the society confers upon those of its members, who after a year or more of practical work in medicine prove themselves worthy, a diploma of fellowship. The society is doing good work among the students and as time goes on will be a power for helpfulness. Not the least good work that it does is the bringing together of members, fellows and faculty in social relationship, thus making the tie closer between teacher, student and graduate. After the conferring of the diplomas by President Kleinhans, a bounteous repast was served, followed by responses to toasts. Among the gentlemen responding were Drs. Earles, Maercklein, Lemon, Hill, Waterman and Neilson. An unexpected part of the programme was the presentation of a beautiful silken banner wrought with gold, to the society, by Dr. Earles, in behalf of Miss Mærcklein, daughter of Dr. Wm. Maercklein. The beautiful gift was accepted amid great applause by Mr. Meeney, class of '98, in a few well-chosen remarks.

It is needless to say that the charming young lady has a very warm place in the heart of every loyal Leeuwenhœk.

Thus with song and story and flashes of wit, now serious now gay, the evening fled all too soon, leaving one more success to mark the progress of the Leeuwenhœk Society.

Long may it prosper and fulfill its mission abundantly.

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Alumni Association Meeting.

Monday and Tuesday were gala days for the alumni of Milwaukee Medical College and their friends. An elaborate programme was arranged by Dr. Gudex which was carried out quite fully.

It involved extensive gynæcological clinic by Professors Shimonek and Fish; eye clinic by Professor Bartlett; medical clinic by Professor Neilson, and surgical clinic by Professor Earles.

Also papers by Dr. O. E. Henslin, class of '95, Le Roy, Minn., on "Pioneer Life and Experience of a Country Doctor;" "Formaline," by Dr. V. A. Gudex, class of '95, Milwaukee; "Floating and Movable Kidneys, Symptoms, Diagnosis and Surgical Treatment," by Professor Nolte, Milwaukee; "Facts and Factors in Surgical Diagnosis," by Professor C. W. Oviatt, Oshkosh; "The Newer Therapeutics," by Professor W. B. Hill.

There was a large attendance of students, visiting physicians, members of the faculty and others, thus giving encouragement to a feature of college work which has in it the beginnings of great scientific usefulness. Credit is to be given the promoters of the plan and to the various gentlemen for their hearty co-operation, while they on their part cannot fail in being gratified by the interest taken in their work.

We expect to give the papers read in our next number.

Book Review.

THE Necessity of Complete Extirpation of Tumors and the Importance of Rapid Cicatrization of the Wound. By Frederick Holme Wiggin, M. D., New York.

A BRIEF Resume of a Comparative Study of the Ophthalmoscopic Conditions seen in Interstitial Nephritis as found in Dispensary Service and in General Hospital Practice. By Chas. A. Oliver, A. M., M. D., Philadelphia.

A CRITICAL Study of three hundred and fifty-four cases of foreign bodies situated on and in the Cornea. By Chas. A. Oliver, A. M., M. D., Philadelphia.

ADDITIONAL note upon an artificial eye intended for the study of Opthalmoscopy and the Objective Determination of Ametropia. By Chas. Oliver, A. M., M. D., Phildelaphia.

News and Miscellany.

Preliminary Programme of the Annual Meeting of the Tri-State Medical Society, Held in Chicago, April 7, 8 and 9, 1896.

Dr. Nicholas Senn, Surgical Clinic; Dr. John B. Murphy, Surgical Clinic; Dr. J. H. Etheridge, Gynecological Clinic; Dr. F. Henrotin, Gynecological Clinic; Dr. J. M. Mathews, Louisville, Public Address; Dr. J. J. M. Angear, Chicago, subject unannounced; J. R. Ash, Brighton, Ill., subject unannounced; Frank Allport, Minneapolis, subject unannounced; Wellington Adams, St. Louis, "A New and Practical Method of Opening and Dilating the Eustachian Tube;" J. J. Brownson, Dubuque, Ia., "Chest Drainage in Empyema;" J. M. Ball, St. Louis, "Eye Symptoms in Brain Tumor;" G. W. Barr, Quincy, Ill., "The Use of Patent Medicines;" G. Wiley Broome, St. Louis, "The Diagnosis and Surgical Treatment of Cancer of the Cervix;" D. C. Brockman, Ottumwa, Ia., "Points in Surgical Practice;" A. H. Cordier, Kansas City, "Pregnancy Complicated by Cancer of the Cervix—Report of Case;" G. W. Cale, St. Louis, "Surgical Treatment of Brain Tumor;" F. B. Dorsey, Keokuk, Ia., "Fracture of Pelvis, Complicated with Pregnancy;" L. H. Dunning, Indianapolis, subject unnanounced; C. Travis Drennen, Hot Springs, Ark., "Gonorrhœal Rheumatism;" H. C. Eschbach, Albia, Ia., "Colles Fracture;" R. C. Heflebower, Cincinnati, "Foreign Bodies in Crystalline Lens" "and The Ophthalmoscopic Findings in Reynaud's Disease;" Webb J. Kelly, Galion, O., "The Treatment of Unreduced Fractures of the Lower End of the Radius;" Emory Lanphear, St. Louis, subject unannounced; Merrill Rickets, Cincinnati, "Anal Fistula, Peritonitis, Laparotomy, Recovery;" Adolph Meyer, Worcester, Mass., "Etiological, Clinical and Pathological Factors in Diagnosis and Rational Classification of the Infectious and Toxic Diseases of the Peripheral Nerves, Spinal Cord and Brain;" C. B. Nancrede, Ann Arbor, Mich., "The Operative Treatment of Jacksonian and Focal Epilepsy as Illustrated by Selected Cases;" Paul Paquin, St. Louis, "Some Recent Criticism on the Serum Therapy;" Roswell Park, Buffalo, N. Y., "Auto-Infection in Surgical Cases;" J. F. Percy, Galesburg, Ill., "Special Education as a Means of Treatment in Chronic Neurasthenia;" John Punton, Kansas City, subject unannounced;

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F. Reder, Hannibal, Mo., "Remarks on a Partial Dislocation of the Axis;" D. S. Reynolds, Louisville, "Local Treatment of the Eye;" R. Harvey Reed, Columbus, O., subject unannounced; E. O. Sisson, Keokuk, "Ulcerative Inflammation of the Cornea;" T. O. Summers, St. Louis, "Leucocytosis, Its Relation to Modern Therapy;" W. W. Wathen, Louisville, "Pathology of Cystic Tumors of the Ovary and Broad Ligaments;" O. B. Will, Peoria, "Dysuria in the Female;" Alex. Hugh Furguson, Chicago, "Pylorectomy in America;" D. R. Brower, Chicago, "Anæmia and its Relation to the Nervous System with Suggestions as to Treatment;" John Ridlon, Chicago, "Flat Fast;" J. B. Bacon, "Conservative Surgery in the Treatment of Hemorrhoids;" Weller Van Hook, Chicago, subject unannounced; Wm. Allen Pusey, Chicago, subject unannounced; Arthur Edwards, Chicago, subject unannounced; Frank Billings, Chicago, subject unannounced; Gustav Fuetterer, Chicago, subject unannounced; T. J. Shuell, Parnell, Ia., "The Relation of Fœcal Impaction to Appendicitis;" Dr. Otto Sutter, St. Louis, subject unannounced; Dr. A. E. Mink, St. Louis, subject unannounced; Dr. G. H. Thompson, St. Louis, subject unannounced; Dr. Harry Wells, St. Louis, subject unannounced; W. C. Ussery, St. Louis, subject unannouned.

Programme of the Third International Congress of Dermatology.

The following is the programme for the Third International Congress of Dermatology, which will be held in London, August 4th to 8th, 1896:

TUESDAY, AUGUST 4TH.

PRELIMINARY BUSINESS.

12 M.—*Presidential Address.*

DERMATOLOGY.

3 P. M. Subject: "Prurigo." 1, Dr. Besnier, Paris; 2, Prof. Kaposi, Vienna; 3, Dr. J. C. White, Boston; 4, Dr. Payne, London.

WEDNESDAY, AUGUST 5TH.

9 A. M.—*Clinical Demonstration of Cases.*

DERMATOLOGY.

10:30 A. M. Subject: "The Etiology and Varieties of Keratosis." 1, Dr. Unna, Hamburg; 2, Dr. H. G. Brooke, Manchester; 3, Prof. V. Mibelli, Parma; 4, Dr. W. Dubreuilh, Bordeaux.

3 P. M. Papers.

SYPHILIS.

10:30 A. M. Subject: "Syphilitic Re-infection." 1, Prof. Fournier, Paris; 2, Prof. Lang, Vienna; 3, Mr. Alfred Cooper, London; 4, Dr. Fitzgibbon, Dublin.

3 P. M. Papers.

THURSDAY, AUGUST 6TH.

9 A. M.—*Clinical Demonstration of Cases.*

DERMATOLOGY.

10:30 A. M. Subject: "The Connection of Tuberculosis with Diseases of the Skin other than Lupus Vulgaris." 1, Dr. J. Nevins Hyde, Chicago; 2, Dr. Hallopeau, Paris; 3, Dr. Radcliffe Crocker, London; 4, Dr. G. Riehl, Vienna.

SYPHILIS.

10:30 A. M. Subject: "The Duration of the Period of Contagion of Syphilis." 1, Mr. Hutchinson, London; 2, Prof. Campana, Rome; 3, Prof. Lassar, Berlin; 4, Dr. Feulard, Paris.

DERMATOLOGY AND SYPHILIS.

2 P. M. Subject: "Ringworm and the Tricophytons." 1, Dr. Sabouraud, Paris; 2, Prof. Rosenbach, Gottingen; 3, Mr. Malcolm Morris, London. Many contributions to this debate promised.

FRIDAY, AUGUST 7TH.

9 A. M.—*Clinical Demonstration of Cases.*

DERMATOLOGY.

10:30 A. M. Subject: "The Nature and Relations of the Erythema Multiforme Groupe." 1, Prof. De Amicis, Naples; 2, Dr. T. H. Veiel, Stuttgart; 3, Dr. P. A. Morrow, New York; 4, Dr. Stephen Mackenzie, London.

SYPHILIS.

10:30 A. M. Subject: "Malignant Syphilis." 1, Prof. Handlung, Copenhagen; 2, Prof. Neisser, Breslau; 3, Prof. Tarnovsky, St. Petersburg.

DERMATOLOGY AND SYPHILIS.

2 P. M.—*Clinical Demonstration of Cases.*

3 P. M. Papers.

SATURDAY, AUGUST 8TH.

9 A. M.—*Clinical Demonstration of Cases, followed by Papers.*

NOTE—The Congress has been fortunate enough to secure for its use the building known as Examination Hall, on the Victoria Embank-

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ment. This will afford every facility for all kinds of demonstrations; cases, pictures, museum, etc. Special efforts are being made to have large clinical demonstrations of cases, and all who have been in London know how rich is the material there.

It is of the greatest importance that those intending to join the Congress should notify the Secretary, Dr. J. J. Pringle, 23 Lower Seymour Street, London, W., of their intention as soon as possible. The membership fee is $5, which should be sent in the form of a one-pound sterling draft on London, or P. O. order to the same amount.

GEO. THOS. JACKSON,
Secretary of the United States.
14 East 31st St., New York.

THE American Medical Association meets in Atlanta, Ga., May 5th, and all delegates to this society should embrace the opportunity of visiting "Lookout Inn," a magnificent and historic spot on the crest of Lookout Mountain, overlooking Chattanooga, Tenn. A special invitation is extended to physicians to spend a week with us, en route to Atlanta, and a complimentary rate will be made for the occasion. Trains up the mountain make close connections in both the Central and Union Depots, Chattanooga, running through to the Inn without change. For further information and handsome, illustrated booklet, address M. S. GIBSON, Lookout Mountain, Tennessee.

THE Wisconsin College of Physicians and Surgeons held its graduation exercises at the Pabst Theater Tuesday evening, March 31st. A class of sixteen young men were graduated, this being the third year of the college's existence. We regret not being able to give our readers a more extended account of the exercises, but are not in position to do so, as the necessary information has not been sent in. All the young men have our hearty congratulations and well wishes for the future.

THE third annual meeting of the American Publishers' Association will be held at Atlanta on May 4th at 9:30 A. M. A number of interesting papers are on the programme and many have been promised on subjects of vital importance to every one interested in the progress of medical journalism. A special invitation has been extended to members by the management of "Lookout Inn."

AT the business meeting of the M. M. C. Alumni Association the following officers were elected for the ensuing year: A. E. Henslin, Le Roy, Minn., president; Arthur Cohn, Milwaukee, vice-president; R. J. Fleischer, Milwaukee, treasurer; V. A. Gudex, Milwaukee, secretary. Admitted to membership: Drs. Cohn, Machleith, Toussaint, Broche, Frankson, Wassweiler, Dewey, Jones and Partridge.

DR. ARTHUR COHN settles in Milwaukee, where his popularity will soon secure him a good practice.

DR. LOUIS TOUSSAINT and Dr. Machleith are also remaining in Milwaukee, and both are already doing business. Dr. Frankson has gone to Escanaba and Dr. Phipps remains in Milwaukee. The remaining members of the class are as yet unsettled. We hope to hear from them as soon as they have located.

DR. GEO. DEWEY, '96, M. M. C., has accepted a position as interne in St. Mary's Hospital, Oshkosh.

DR. JONES, of the same class, has been tendered and accepted the position of assistant surgeon to one of the large mining corporations on the upper peninsula.

DR. G. V. I. BROWN, of Duluth, class of '95, Milwaukee Medical College, made us a pleasant call while in attendance at the Alumni Association.

DR. A. E. HENSLIN, '95, Le Roy, Minn., reports plenty of practice in his locality. He certainly looks prosperous. We had the pleasure of hearing (not from him) that he had an average of 90 per cent. in his examination before the Minnesota State Board of Medical Examiners.

THE smoothness and swing with which the exercises at the commencement of Milwaukee Medical College were conducted were largely due to the efforts of Prof. Nolte, who is a past master of ceremonies, and to Prof. B. A. Brown, who is an indefatigable worker.

THE graduating class of St. Mary's Training School for Nurses tendered a banquet to the instructors on the 6th inst. Eight young ladies graduated.

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Publishers' Column.

Who?

Who does more good in the world than they who relieve suffering humanity? I have used Sanmetto in many cases where it was indicated, such as enlarged prostate of old men, and in cystitis and gonorrhea. I truly believe that I have carefully tested every remedy in the Pharmacopea for these distressing and painful affections of humanity, and none give relief like Sanmetto. In one case where solid casts from the urethra were voided where micturition was so frequent as every ten or fifteen minutes night and day, and where the catheter would not pass into the bladder Sanmetto brought relief. I consider it the great reliever of these affections.

C. N. BROWN, M. D.

Webster, W. Va.

A Clinical Study of Antikamnia.

The New York *Medical Record* contains an exhaustive article under the above caption by Samuel Wolfe, A. M., M. D., Physician to the Philadelphia Hospital; Neurologist to the Samaritan Hospital, Philadelphia. He summarizes as follows:

"I feel justified from my experience, to formulate the following conclusions:

"That antikamnia is valuable for reducing temperature in febrile complaints.

"That it is of service in many forms of pain connected with febrile diseases.

"That it has a field of use in rheumatic and gouty affections.

"That in neuralgic and myalgic pains, it is not only palliative, but along with other measures, assist in ultimate cures.

"That in neurasthenia, hysteria and migraine, it is a valuable adjuvant to the other recognized therapeutic measures.

"That in organic nervous diseases, it has a field of application.

"That it is the least depressing of all the drugs that can exercise so extensive a control of pain, and also least disturbing to the digestive and other organic functions." He further states:

"The scientific physician prefers always to treat a cause or condition, rather than a mere symptom. If he can remove pain, by abolishing its cause, he will do so, rather than to blunt the sensory structures so that the pain is not felt. The demand for relief from mere symptoms, however, frequently becomes imperative, and this is especially the case when pain is present. We would cease to respect the physician, who in the presence of an acute, agonizing pain, which mechanical or other means could not quickly relieve, who would withhold the hypodermic morphia. On the other hand, we applaud the sentiment which seeks for measures to combat this symptom, carrying with them less of the remote dangers, which are inherent in the frequently repeated and long-continued use of opiates."

SANMETTO IN RETENTION OF URINE.—Have given Sanmetto a good trial and find it one of the best preparations I have ever used. Case No. 1—John D., aged 70, Ireland—has been troubled for a long time—unable to pass his urine. After treatment with other remedies with no benefit, placed him on Sanmetto with following results: The first day the pus increased in quantity, on second day diminished, by fourth day could urinate himself—before this he had to be catheterized. Dose, one drachm every four hours for the first three days, afterwards one drachm three times a day. Discharged in ten days, a complete cure of cystitis.

A. C. FORMAN, M. D.
House Physician Bayonne Hospital.
Bayonne, N. J.

PARTURITION.—DIOVIBURNIA (Dios), in teaspoonful doses every hour after Parturition, is the reliable agent to prevent afterpains and hemorrhage. It being the most powerful uterine tonic attainable, having direct action on the uterus, expelling blood clots, closes the uterine sinuses, contracting the womb and preventing subinvolution.

In severe cases fluid extract of Ergot should be combined one part to four of Dioviburnia. It is the experience of the most Progressive Practitioners that in all cases where Ergot is indicated, its action is very much more efficacious by combining with Dioviburnia in the above proportion.

MESSRS. Theo. Metcalf Co. have just put on the market a tablet of Kola which bids fair to become very popular with those who prescribe Kola, and who does not in these days?

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Selections.

A Year of Antitoxin.

By J. M. French, M. D., Milford, Mass.

Antitoxin was first brought to the notice of the medical profession during the last half of 1894. It is, therefore, possible at this time to review the experience of the first year of its use, and by a comparison of the published statistics and opinions concerning its results, to ascertain with some degree of accuracy the present status of the remedy in the minds of the medical profession at large.

As to the claims of antitoxin, no one is better qualified to speak than Behring himself, who, more than any other, is its originator. "I am now definitely of the opinion," he writes, "that under suitable treatment with my remedy the mortality from diphtheria may be reduced under five per cent., if the serum is used in good time—that is before the third day of illness. * * * The serum may be used with success after the third day; but it cannot be too often repeated that this can only be the case when a multiple of the ordinary dose is given, when the danger to life is due to the diphtheritic process, not to infection with other matters, and when further immediate danger from obstruction of the respiratory passages is relieved by tracheotomy or intubation."

In the light of this clear statement of the claims of the method by its author, let us examine the statistics of its results in hospital and private practice.

In the Willard Parker Hospital, in Boston, from January 1 to May 1, 1894, there were treated 211 cases of diphtheria by the usual methods, with a mortality of 39 per cent. For the corresponding period of 1895, 255 cases were treated with antitoxin, with a mortality of 28 per cent. Of laryngeal cases requiring intubation, 36 cases were treated without antitoxin, with 4 recoveries; while 53 cases were treated with antitoxin, with 19 recoveries. Of laryngeal cases not requiring intubation, there were 4 deaths in 13 cases treated without, and 4 deaths in 18 cases treated with, antitoxin. A further analysis shows that out of 59 cases not involving the larynx, in which treatment was begun within the first three days, only 4 died—a mortality of 6½ per cent.—while in 95 such cases admitted after the third day, the mortality was 22 per cent.

In the Boston City Hospital, for the first forty-five weeks of 1894, under the usual treatment the mortality from diphtheria was 42 per cent.—which was less than the average for the preceding four years—while during the last seven weeks of the year, when all the cases which were deemed likely at the outset to be severe were treated with antitoxin, the mortality was reduced to 21 per cent., and in those cases in which the serum was actually used to 17 per cent.

Dr. William H. Welch, in a valuable paper in the *Johns Hopkins Hospital Bulletin*, gives a summary of 7,166 cases treated with antitoxin, with a mortality of 17.3 per cent. At least five-sixths of these were in hospital practice, where the ordinary rate of mortality is in the vicinity of 50 per cent. He also shows that in 814 cases, in which treatment was begun before the third day the percentage of deaths were only 5.5 per cent.

Prof. Van Ranke, of the University of Munich, states that in his clinic the mortality from diphtheria for eight years prior to September 24, 1894, the date of the introduction of the serum treatment, ranged from 46 per cent. in 1893, to 57 per cent. in 1894; while from September 24, 1894, to July 1, 1895, under the new treatment the mortality was 17.7 per cent.

Reports from Germany of 10,312 cases of the disease, show 5,833 cases treated with the antitoxic serum, with a mortality of 9.6 per cent., and 4,479 cases treated without the serum, the mortality being 14.7 per cent.

In the various children's hospitals in New York City, antitoxin has been used very successfully as a means of preventing the disease in persons who had been or were about to be exposed to its contagion. The immunity thus produced is not permanent, but lasts for a variable period, usually about thirty days. In 1,014 cases thus immunized, there were only 3 cases of diphtheria occurring within thirty days thereafter, although the conditions were the same under which during the ninety days preceding immunization, 225 cases of the disease had occurred. By this means it was therefore found possible to stamp out diphtheria completely in a number of great institutions in which it was prevailing in a more or less epidemic form.

The statistics of private practice are more difficult to obtain, owing to the comparatively small number of cases treated by any one person, and also to the reluctance of the general practitioner to report his cases. But so far as can be gathered from the reports scattered here and there in

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the medical journals, the results have been even more favorable, comparatively, here than in hospital practice, while the actual percentage of deaths under either method of treatment is much less.

To clearly comprehend the theory upon which the use of antitoxin is based, let us glance for a moment at the general subject of immunity, or freedom from the liability to certain infectious diseases. A natural immunity exists in certain species of animals and in single individuals of a species, rendering them insusceptible to particular diseases. The same natural immunity is supposed to exist in some individuals of the human race, as no amount of exposure is capable of producing in them certain of these diseases; as for example, small-pox or measles. Acquired immunity is the insusceptibility to a second attack, in persons who have successfully passed through one attack of an infectious disease. It may be of a longer or shorter duration. The theory is that the tissues are exhausted of the pabulum on which that particular germ thrives. This form of immunity was formerly produced artificially in the case of small-pox, by inocculating healthy subjects with the virus of genuine small-pox, whereby a comparatively mild and less dangerous attack was induced and full immunity from future attacks secured.

But Jenner discovered that an attack of kine-pox, a different and much less serious though similar disease, was equally effective in protecting from small-pox, and substituted vaccination for innoculation—a trifling affection for one which, even in the modified form induced by innoculation, was dangerous and sometimes fatal.

The next step was taken by Pasteur, who discovered the possibility of modifying the virulence of a specific disease by a system of gradual attenuation of its virus, thereby lessening its activity without changing its nature. This he applied to the treatment of anthrax, hydrophobia, and some other diseases. His own statement of his theory is as follows: "To exhaust a soil, a parasite less vigorous and destructive than the really virulent one may suffice; and if, after having by means of a feebler organism exhausted the soil without a fatal result, the most highly virulent parasite be introduced into the system, it will prove powerless."

This system, while productive of very beneficial results, was yet attended with some degree of danger, on account of the pathogolical disturbances inevitably produced by the introduction of these weakened bacterial cultures into the system. The new disease thus produced, though much milder than the one which it supplanted, was yet not entirely devoid of danger.

But now a new path was blazed in the wilderness of bacterio-therapy. We owe to many observers, but notably to Roux and Behring, the discovery of the fact that there are formed in the blood of persons recovering from the specific infectious diseases, substances which antagonize the poison of the disease, and thus lead the way to recovery. Further investigation showed that if blood-serum containing these substances be injected into the blood of subjects suffering from the disease, its course is thereby arrested and a cure effected, provided the constitutional effects had not proceeded too far, and also that a similar injection in healthy subjects confers a temporary immunity from the disease. Whether this result is due to chemical or vital action is not yet definitely settled, but the weight of evidence decidedly sustains the vital theory, namely, that the antitoxin acts through the agency of the living body, and probably by rendering the cells tolerant of the poison. This system of treatment, which is known as serum-therapy, has been wrought out more fully in the case of diphtheria than of any other disease, but is already being experimented with in numerous other diseases, with every promise of brilliant results in due time.

From a review of the statistics given, and also of the published opinions of prominent investigators, the following conclusions are drawn:

1. Small doses of antitoxin will produce temporary immunity, lasting about four weeks; and for this purpose it should always be used in cases of an outbreak of the disease in public institutions, or in families where one member is attacked and absolute isolation is impracticable. This seems likely to prove one of the most important uses of the remedy.

2. Used in larger doses, and duly repeated according to necessity, it will arrest the progress of the disease, clear the throat of membrane, and unless serious constitutional effects have already resulted, will produce a speedy cure. But it will not antagonize septic poisoning, nor restore degenerative changes resulting therefrom. Therefore in order that it may be relied upon to produce recovery, it must be used early in the course of the disease, the earlier the better; while if deferred until late in the progress of the case, it

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may prove without avail. Whether it lessens the frequency of heart, nerve and kidney complications, seems to depend entirely upon the period when it is used. The time of its greatest usefulness is generally placed at the first two or three days, but in reality is measured, not so much by the day of the disease as by the extent of the septic poisoning and resulting degenerative changes.

3. It cannot be too often repeated that antitoxin is in no sense a germicide, and it produces no effect upon the bacillus of diphtheria, which may persist in the throat for days and even weeks after recovery has taken place following the injection of the serum. For this reason it does not supersede the older measures of antisepsis and isolation in the treatment of the disease.

4. There are no toxic properties in antitoxin as such. But considered as a foreign substance, the blood-serum of the horse, when introduced directly into the blood and tissues of the human system, may, and often does, produce disagreeable and unpleasant symptoms in the shape of urticaria and other exanthems, and occasionally elevation of temperature, swelling of the joints and cutaneous hyperæsthesia. Mr. Lennox Browne, one of the ablest laryngologists of Great Britain, considers that it creates "an increased liability to the most grave complications of diphtheria, viz., anuria, nephritis and cardiac failure," and on this and other grounds, he does not feel justified in recommending the use of antitoxin. His experience is at variance with that of the large majority of observers, however, most of whom agree that the essential harmlessness of the serum has been demonstrated by more than one hundred thousand injections.

5. Taking all cases reported together, the practical result of the first year's use of antitoxin, so far as can be judged at the present time, has been to lessen the death rate from diphtheria in cases where it has been used, nearly or quite one-half, thus proving itself beyond all doubt to be the most successful of any known treatment for this dread disease. It is confidently predicted that the results will be even more favorable the second year, owing to improvements in the methods of preparing, preserving and administering the serum. There is also every reason to anticipate that the same success which now attends the treatment of diphtheria by the serum method will soon be attained in the cases of a number of the other specific diseases.—*Medical and Surgical Reporter.*

The Use of Subcutaneous Saline Infusion in Shock and Hemorrhage.

BY GEORGE H. ROHE, M. D.

Superintendent of the Maryland Hospital for the Insane, Catonsville, Md.

Abstract of a paper read before the Southern Surgical and Gynecological Association, November, 1886.

The potency of intra-venous transfusion of a solution of sodium chloride in the treatment of alarming hemorrhages, either accidental, post-operative or peurperal, is well known to surgeons. There is reason to believe that more frequent resort would be had to this method if it were not for its inconvenience and difficulty. The unpleasant symptoms often following the sudden introduction of a large quantity of fluid directly into the blood-vessels, and the danger of admitting air into a vein have also probably deterred many from practicing it. No one who has performed direct venous transfusion of blood, or any other fluid, will underrate these difficulties or dangers. The injection of saline solution into the arteries as practiced by some seems to me highly irrational. Happily, however, we have in the subcutaneous infusion of what is known as the physiological saline solution, a means of attaining the same result without danger or inconvenience. The method requires only ordinary skill and care in its management.

In a short paper read by title before this association at its last annual meeting, Dr. T. J. Crofford, of Memphis, called attention to the value of subcutaneous infusion in hemorrhage and reported several cases showing its value.

Subcutaneous infusion of large quantities of fluid was first recommended by Cantani, in 1865, to restore the loss of the fluid constituents of the blood drained off during the algid stage of Asiatic cholera. It was not practiced, however, until 1884, when following the renewed suggestion by Cantani and Samuel, a number of Italian, German and Hungarian practitioners had opportunity to make successful use of the method in this fatal disease.

J. Michael, of Hamburg, claims that subcutaneous infusion for hemorrhage was done for the first time in 1886, in Leopold's clinic in Dresden. Since that time surgeons and obstetricians have here and there availed themselves of the method, but its great practical value should be a stimulus to its wider application. Dr. Farrar Cobb reports six cases of shock and hemorrhage following injury in which hot saline solution was in-

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jected. In three of the cases the patients were saved. Dr. Addison S. Thayer reports a case of intestinal hemorrhage in the course of typhoid fever in which the injection of saline solution seems to have saved the patient's life.

I have for several years employed, with success, a saline solution, in which egg albumen was dissolved, by subcutaneous infusion for purposes of nutrition in patients refusing food. (See paper of Dr. M. D. Norris, in annual report of the Maryland Hospital for the Insane for 1893.) One pint of the fluid containing the whites of two eggs was usually injected at a time. The results were uniformly good. I am of opinion that in many cases of persistent irritable stomach after abdominal section, or in cases of acute alcoholism, this method would be extremely valuable.

My experience with subcutaneous infusion in post-operative shock following hemorrhage is limited to two cases. In one case of trephing for epilepsy, there had been free bleeding, and when the operation was completed the patient was blanched, covered with perspiration and almost pulseless. The infusion of a pint of the salt solution was quickly followed by a full pulse and improvement in the general condition. The patient rapidly recovered from the operation without further unpleasant symptoms.

The other case was an abdominal section for fibroid in which the loss of blood from large friable vessels was so enormous that I feared the patient would die on the table. She kept up fairly well, however, until the operation was completed, when the pulse failed.

The infusion of a pint of salt solution was followed by an improvement of the pulse and general condition, but the improvement was not maintained. I am now of the opinion that infusion of a larger quantity of the liquid might have saved this patient.

The strength of the solution used by various practitioners differs slightly. I use a 0.7 per cent. solution of sodium chloride.

Some add a small proportion of sodium bicarbonate, but this is immaterial. The solution and all instruments should of course be sterilized.

The solution should be injected at a temperature of 105°F. In cases of severe collapse, the temperature may be higher, 107°—108°.

An ordinary stomach tube with a medium-sized aspirator-needle is all the armamentarium required.—*The International Journal of Surgery.*

The Discoveries of Kitasato.

Dr. Behring, it was announced in Germany on the 26th inst., has produced an antitoxine serum for Asiatic cholera. But it appears that he must yield the credit for this discovery to his former associate, Dr. Kitasato, now laboring in Japan, who declared a month ago that he had perfected an antitoxine serum for this disease. Both of these eminent bacteriologists were pupils of Prof. Koch, in Berlin, where Dr. Kitasato studied for seven years, and where he was associated with Behring in conducting the experiments which finally gave to the world the new remedy for diphtheria.

The cholera antitoxine is not the only curative serum which Dr. Kitasato has produced in the extensive laboratory which is maintained by the Japanese Government for his use at Tokio. We referred last year to Kitasato's inquiry in Hong-Kong, to which city he was sent as a representative of the Japanese Imperial Board of Health, concerning the origin and nature of the disease called "plague" or "black death," an epidemic of which was then in progress. He discovered the germ or bacillus of this ancient and dreadful malady, and he has since produced a curative serum for the treatment of it. Experiments have proved, he asserts, that the serum is effective when injected within six hours after the beginning of the attack. But this is not all. He announces that he has detected the characteristic bacillus of leprosy, and has produced the disease by inoculation with this germ, and by the immunizing process has obtained an antitoxine serum by which leprosy can be cured.

Another discovery must be added to his list. The Japanese soldiers returning from China and Formosa suffered not only from cholera, but also from an abdominal typhus fever of malignant kind. He has found the bacillus of this disease, and is engaged in producing a serum for the treatment of it.

In his laboratories he has a large number of horses, sheep and other animals undergoing that process of immunization with the details of which all those who are interested in the production of diphtheria antitoxine are now familiar, the process which has been used for months in the laboratory of the New York Board of Health. There he obtains the antitoxines of diphtheria and lock-jaw—both of which are now in use in Europe and America—as well as the new anti-

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toxines of cholera, leprosy and malignant abdominal typhus.

The recent great epidemic of cholera in Japan furnished an abundance of material for bacteriological experiment. The number of cases is reported officially to have been 56,367, and the mortality (39,721 deaths) was exceptionally severe, or about 70½ per cent. In a group of 193 cases treated with this curative serum the mortality was reduced to 33 per cent. While these figures are encouraging, they do not seem conclusive, but it is stated that nearly all of the sixty-four persons who did not recover were brought to the hospital in the last stages of the disease, many of them dying an hour or two later. In such cases no remedy could be effective, but Dr. Kitasato says, it is reported, that the serum is a positive specific when injected promptly after the beginning of the attack. Such an assertion has great weight when it is made by a man so eminent in his scientific province. We may be confident that the serum has been produced by a careful and scientific use of the process followed in the manufacture of diphtheria antitoxine, and that it has been applied properly by a competent person. The experiments of Ferran, in Spain, were not made under such conditions—indeed, the virtue of serum from immunized animals was then unknown—nor is it clear that the more recent work of Haffkine in India has this scientific basis. At another time we may have something to say about Kitasato's treatment of tuberculosis, as to which the only reports thus far published are somewhat ambiguous and probably misleading.

If it shall be shown conclusively by the test of continued use that this Japanese bacteriologist has really produced curative antitoxines for both Asiatic cholera and the "black death" or "plague," there will be a curious fitness in the discovery in the far East of these remedies for two old and dreaded diseases which were born in the East and have their homes in Eastern lands from which the infection has been carried to Europe and the New World so many times and with consequences so deplorable.—*New York Times.*

The Influence of Alcohol on Proteid Metabolism.

The study of the influence of alcohol upon the nutrition of the animal body has always been attended with difficulty. Physiologists have never quite agreed as to its influence upon digestion, secretion, absorption, and especially as to its action upon general metabolism. This has no doubt been due to the natural variation in action dependent upon the conditions of experiment, a fact which may be taken as an illustration of the manifold physiological action of alcohol. Thus, years ago, some observers reported that the administration of alcohol was followed by a diminished excretion of nitrogen, thus implying a diminution of proteid metabolism. Other observers, on the contrary, found the elimination of urea or nitrogen wholly unchanged by the administration of alcohol. Obviously, if alcohol is in any sense akin to a non-nitrogenous food, its ingestion should be followed under appropriate conditions by a decreased metabolism of proteid matter. But in attempting such experiments it must not be forgotten that alcohol, while possibly possessed of some food value, has also a marked physiological action, the intensity of which may easily overshadow any effect, beneficial or otherwise, it might exert on the general processes of nutrition. Hence, variations in dosage and in the conditions under which the substance is taken may manifestly lead to divergent results.

Large doses of alcohol will naturally be followed by the excretion of a portion of the substance wholly unchanged; but such a fact does not by any means constitute proof that alcohol cannot be oxidized in the body and thus serve as a source of energy. Experiment, indeed, has shown that when alcohol is administered in small quantity it may be completely burned and its oxidation attended with the liberation of a corresponding amount of energy. This being so, we can properly attribute to alcohol a certain food value. Whether it is a proper, safe, or economical food, physiologically considered, is not the question under discussion, but that it does possess some food value there is hardly any doubt.

As far back as 1879, Munk, experimenting with dogs, found that in general moderate doses of absolute alcohol (1-1½ c.c. per kilo. of body-weight) lessen the decomposition of proteid matter in the body to the extent of 6-7 per cent., while larger doses of 2 c.c. absolute alcohol per kilo. of body-weight increased proteid metabolism 4 to 10 per cent. Von Bock and Bauer likewise noticed, in conformity with the above observations, that small doses of alcohol caused a diminished excretion of carbonic acid and inflow of oxygen, while larger doses led to an increased consumption of oxygen and excretion of

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carbonic acid. Munk also called attention to the fact that after the administration of large doses of alcohol the giving of small doses was not then followed by any diminution in the consumption of proteid matter, or at least not to any marked degree.

In some experiments made by the writer in 1891,* likewise on dogs, it was found that the ingestion of alcohol led to a slight decrease in the output of nitrogen. More noticeable, however, and of greater significance was the fact that associated with this slight decrease in the excretion of nitrogen was a marked and constant increase in the output of uric acid. Our results in the main led to the conclusion that alcohol, so far as its general influence on proteid metabolism is concerned, acts chiefly as a non-nitrogenous food. As such it would naturally yield a certain amount of energy by its own oxidation, and thus tend to protect slightly the consumption of proteid matter and hence conserve the tissues. This view would accord with the results obtained by Reichert† in his study of the action of alcohol on animal heat functions. Assuming this view to be correct, one would not expect any very great diminution in the nitrogen output under the influence of alcohol; in fact, no greater than was observed in some of our experiments, since it can save the tissues or the proteid foodstuffs only to the extent of the energy which it can itself yield. At the same time it must be remembered that alcohol is a potent drug, and as such may exert at times some specific action upon metabolic changes. Possibly in this direction lies the explanation of the decided increase in the elimination of uric acid. The results obtained certainly indicate that alcohol has a decided and specific action in this direction, increasing the excretion of uric acid to a very noticeable degree, and that at a time when the elimination of urea and total nitrogen is being diminished. The writer has thus been inclined to believe that alcohol, in virtue of its character as a non-nitrogenous food may tend to diminish somewhat the general metabolism of proteid matter, thus conserving the tissues, while at the same time it has a more specific action upon certain phases of nutrition, as shown in its tendency to increase the excretion and probably the production of uric acid. This latter action, however, has lacked confirmation, and the writer has always intended to repeat the experiments on man with a view to obtaining, if possible, fuller data on the subject.

Quite recently, Donogany and Tibald‡ have reported a series of experiments upon the influence of alcohol on proteid metabolism, which give the desired confirmation, for they likewise find that the amount of uric acid excreted during the ingestion of alcohol (by dogs) is greatly increased over the normal. Their experiments show that very small doses of alcohol tend to increase the output of total nitrogen, while larger doses diminish the excretion of nitrogen. Uric acid, however, is always increased in amount, not only absolutely but also in proportion to the total output of nitrogen. The results thus strengthen the position that alcohol has a specific influence upon certain phases of proteid metabolism, doubtless leading to some perversion of the normal functions by which an increased production of uric acid results.

The view that alcohol, when taken in moderate doses, can have only a limited effect upon the consumption of proteid matter receives added confirmation from some recent experiments by Strim.§ This investigator endeavored to ascertain how far alcohol can take the place of fats and carbohydrates, compared isodynamically, in the protection of proteid matter, and also how far alcohol is of importance in aiding or retarding the absorption of nitrogenous foods from the alimentary canal. The experiments made upon his own person after the body had been brought into a condition of nitrogenous equilibrium, tend to show, as might be expected, that 50-80 grams of alcohol, taken daily, have no very marked action. In one experiment, alcohol seemed to facilitate the absorption of proteid matter, while in a second experiment there was slight retardation. Similarly, the general effect on proteid metabolism was slight. Apparently, no effort was made to learn what effect was produced on the formation and excretion of uric acid.

It is, of course, understood that the foregoing statements as to the effeets of alcohol on proteid metabolism do not afford any basis for conclusions regarding the general physiological effects of alcohol, or its usefulness as a part of an ordinary diet. It does not necessarily follow from the results quoted that the moderate use of alcoholic drinks will tend to economize the resources of the human body by diminishing proteid meta-

*Journal of Physiology, Vol. 12, p. 220.

†Therapeutic Gazette, February, 1890.

‡Abstract in Fahresbericht fuer Thierchemie, Baud 24, p. 552.

§Abstract in Centralblatt fuer Physiologie, Band 8, p. 582.

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bolism. As Foster well says, "The prominent physiological problem of dietetics is not either to increase or diminish the metabolism of the body, but to direct that metabolism into proper channels; and whether in each particular case a given dose of alcohol gives a right or wrong turn to the physiological processes of the body, depends on the particular circumstances of the case."

It is, however, very desirable for us to have as complete knowledge as possible of the various ways in which alcohol and alcoholic drinks affect the nutritional processes of the body.—*The Dietetic and Hygiene Gazette.*

Ocular Symptoms in Diseases of the Spinal Cord.

BY WILLIAM OLIVER MOORE, M. D., COLUMBUS.

Professor of Diseases of the Eye and Ear, New York Post-Graduate Medical School and Hospital, Opthalmic Surgeon to the Orphans' Home and Asylum.

Read before the New York Post-Graduate Clinical Society, October 5, 1895.

Beware of the man whose eye you can never meet.

That the eye should show changes in diseases affecting the brain, with which it is so closely connected, is clear, but why in those situated in the spinal cord it is not so easy to comprehend. Ever since the diseases of the "golden bowl" have been the subject of close study, ocular symptoms have been noticed, and, of late years, these same symptoms associated with affections of the "silver cord" have claimed much attention and inquiry.

I regret that I am unable to make any new contribution to our knowledge of the pathological anatomy of these diseases, but hope that my hearers may gain some profit and instruction.

On entering this vast and interesting field one must be very careful to make minute and accurate observations, especially in reference to pupillary signs, as Iwano has found that out of 134 young persons 131 had asymetry of the face, and that the pupils were irregular in 122, and that the largest pupil occurred most frequently on the left side, which was usually the smaller side of the face.

We shall not attempt to cover the whole field which the title of this paper indicates, but only take up certain points that have always interested me.

Your attention will be more particularly called to atrophy of the optic nerve and ophthalmoplegia interna, with but only a passing notice to ophthalmoplegia externa and nystagmus.

Atropy of the optic nerve comes chiefly under the notice of the ophthalmologist, while the affections of the iris come more commonly under the observation of the physician.

The ocular symptoms in spinal cord disease are to be looked upon as associations and not as effects, and that they are also always the result of degenerative processes in the cord.

The usually slow progress of the spinal symptoms is evidence of this fact.

Among the many degenerative diseases of the cord, it is strange that most of the eye symptoms should be with one of them alone, with tabes dorsalis. The fact that they are associations and not effects, is clearly stated by Gowers in the following manner:

1. "That disease of any nature may exist in any part of the spinal cord without the occurrence of ocular symptoms, if we accept the very rare paralysis of the dilators of the pupil in disease of the sympathetic tract in the cervical region.

2. "The ocular symptoms which may be absent when the cord disease is advanced, may exist in extreme degree when such disease is in a very early stage.

3. "With the single exception of the sympathetic symptoms just mentioned, we know of no anatomical connection or functional mechanism by which the spinal cord disease can produce the ocular symptoms."

Injuries to the Spine.—Experimentally in laboratories injuries to the spinal cord of animals have shown ocular symptoms, and these naturally lead us to expect similar results in man where injuries to the spinal column have inflicted pressure on the cord.

Mr. Erichsen,[1] of London, has done much to bring this to notice, and Allbutt considers it sufficiently frequent to establish a causal relation between the two events.

It is stated on authority that Alexander the Great was in danger of losing his eyesight from the blow of a heavy stone on the back of the neck. Thirty-six per cent. of Erichsen's cases showed undoubted eye symptoms.

These are, more commonly, difficulty of seeing in poor light to read, blurring of the type, floating bodies before the eyes, occasionally diplopia with photophobia. The ophthalmoscopic appearances are usually negative.

Wharton Jones[2] considers the eye symptoms in these cases due to the disturbance in the cilo-

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spinal center, and the sympathetic filaments springing from the dorsal and cervical cord.

Other authors have reported severe eye symptoms from comparatively slight injuries of the spine.

I have seen but two cases of concussion of the spine or traumatic neurosis, and in each of these eye symptoms were present in the shape of asthenopia. The fundus in each case was normal and distant vision good, yet difficulty was experienced in reading. Both were females and each had loss of accommodation; that is to say, they could not use the ciliary muscle long without fatigue, and a convex glass had to be given to rectify this difficulty. In neither case was muscular disturbance of the extrinsic muscles of the eye found.

In caries of the vertebræ, when of traumatic origin, we frequently find intra-ocular symptoms, and the opthalmoscope usually shows a condition of engagement of the vessels of the optic disc and surrounding parts.

Dr. Chas. S. Bull[3] reports the histories of eleven cases of traumatic caries of the spine mostly occurring in the cervical, but some also in the dorsal and lumbar regions. Seven had engorgement of retinal veins, with no changes in the arteries; in two choked disc was noticed, and in two anæmia seemed to be present although the veins were enlarged.

I have examined fifteen cases of ocular disturbance in vertebral caries of traumatic origin and found the following conditions: in two, optic neuritis with swelling; three, hyperæmia of the disc with blurred outline but no œdema; eight had enlarged veins and arteries normal in size, or, only slightly enlarged, the changes were symmetrical in each eye; two had floating bodies in the vitreous, with enlarged retinal veins; these changes are probably due to the sympathetic filaments springing from the dorsal and cervical cord.

Locomotor Ataxia.

The frequency with which optic nerve atrophy occurs in tabes is differently stated. Leber found it present in 26 per cent., Gowers in 20 per cent., Nettleship in 50 per cent., and Dana in 10 per cent.

During the past ten years we have made notes of eighty cases of atrophy of the optic nerve where no other history could be obtained, and of this number thirty-two had the signs of tabes as shown by the absence of the knee-jerk; eighteen had ataxic symptoms when first seen. In examining the reports of many of the ophthalmic hospitals of this country, we are unable to tell the proportion of optic nerve diseases due to locomotor ataxia, owing to the method of recording diagnoses. Erb found only 12½ per cent. of his cases to have atrophy of the optic nerve, so that although it is admitted by all writers as a frequent association, the percentage is at great variance. It has been said that the percentage given by the ophthalmologist is too high; I do not think so, but, rather, that it is due to the fact that the patient seeks advice for failing vision when no signs of ataxia are yet present, and that the observers being on the alert for a cause of the optic atrophy enter into an examination of the general condition of the patient and discover tabetic symptoms. I know this has been my personal experience in this direction. Atrophy of the optic nerve belongs to the more frequent of the complications of tabes; it commonly arises in the initial stage and may be the first manifestation, the amblyopia produced by it may last for as many as ten years before other symptoms of tabes appear, as in the case reported by Charcot. Gowers has also reported similar cases; in one the optic atrophy preceded the locomotor symptoms twenty, and in another fifteen years. That optic atrophy ever occurs before the loss of the knee-jerk, I am not satisfied; in all the cases under my observation it was absent, and I believe it is well recognized that the loss of the knee jerk-may precede for a long time other locomotor symptoms.

When the disease was supposed to be situated and limited in the posterior columns of the cord, the association with it of a peripheral degeneration of the optic nerve was an anomaly; but since the recent pathological researches of Pierret, who has shown that the degeneration of the optic nerve is not the only peripheral lesion, and that that in the cord is not the only central change, he has shown that there is often an independent degeneration in the cutaneous nerves commencing in the extremities, and that the optic nerve change is strictly analogous; that there may also exist a degeneration at the central termination of the optic as well as of other cranial nerves, similar to that existing in the posterior columns of the cord. From his standpoint tabes is considered a "wide sensory neurosis," in the course of which the optic nerve atrophy occurs. Déjérine and Westphal have also enlarged our former narrow conception of the tabetic process.

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During the period when there is no affection of the patient's gait and only the loss of the patellar reflex, unsteadiness on standing with bare feet close together with closed eyes (Romberg's symptom), and with lightning pains, there is no doubt that optic atrophy often commences and advances to a considerable degree, and, according to Gowers, it occurred during this period twice as frequently in this than the latter stages of the affection. If no ocular symptoms occur within three years, none will. In my cases fourteen out of thirty-two had only loss of knee-jerk and rheumatic pains in the legs. It is rare for it to occur when the ataxia is so great that the patient cannot walk.

The atrophy usually begins in one eye, THE LEFT, before the other, and may reach a considerable degree before the fellow eye suffers. The immediate cause of the amblyopia in tabes is the gray degeneration of the optic nerves, a degeneration similar in all respects with the changes in the spinal cord. The disease begins at the periphery of the trunk of the optic nerve and gradually attacks the central fibres; it always begins on the trunk of the nerve in the portion nearest the eye, and from thence toward the optic tract.

Sections of the optic nerve show similar lesions to those which are found in the spinal cord. Owing to a degeneration of the medullary sheaths, the nerve fibres reflect less light and appear gray. Compound granule cells are found between the fibres. *The nerve substance* has *disappeared*, the connective tissue is shrunken, and the nerve trunk is decidedly diminished in size. The degeneration is in spots and most usually continues. The narrowing of the visual field would lead us to this conclusion, had not post-mortem changes already shown this condition.

The disease of the optic nerve manifests itself by diminution in the acuteness of vision; the field, which is at first normal, becomes gradually narrower, the field being irregularly contracted. The color field is usually limited before the visual; the perception of green being lost first, then red, and then yellow and blue. Ophthalmoscopic examination shows in the early stages a dirty looking nerve which is indicative of a low grade of neuritis, and this continuing, produces the final full marked appearances of white atrophy of the optic nerve, with narrow arteries and other parts of the fundus appearing normal.

The optic nerve atrophy occurring in tabes is usually progressive and leads to complete blindness, though I have seen two cases where vision was not completely destroyed. And one may observe no ophthalmoscopic change in the fundus and yet amblyopia of a high grade present; in such cases, doubtless, degeneration is retro-bulbar.

The next most frequent ocular symptom in tabes is the pupillary change of the four muscular actions, contraction of the pupil or stimulation of the optic nerve, contraction of the sphincter in association with that of the ciliary and internal recti-muscles, and contaction of the dilator fibres of the iris or stimulation of the skin, and contraction of the ciliary muscle on accommodation, some or all may be lost in association with spinal disease. These changes depend upon at least three centres capable of separate action, all of which probably lie in the tract beneath the aqueduct of Sylvius. Experiments made by Hensen make it likely that the anterior portion of the tract governs accommodation, and the centre next behind is the reflex contraction of the iris. On the outer side of the latter is a center on which depends the reflex sensory dilatation of the pupil. The efferent paths of the two former are through the third nerve. As yet we know little as to the centre for the contraction of the iris which is associated with accommodation, not knowing whether the nucleus for the ciliary muscle is connected with the mechanism for contraction of the pupil at the centre, or in the lenticular ganglion, or on the ganglionic mechanism within the eye. It is more probable that the connection is in the lenticular ganglion.

The path by which stimulation of the skin causes reflex dilatation of the iris is circuitous. The efferent impulse reaches the centre by the cervical part of the spinal cord when the skin of the neck is stimulated, and the efferent impulse descends the cervical cord thence to the superior thoracic ganglion of the sympathetic, and then ascends the sympathetic to the eye.

These pupillary symptoms are as common in tabes as they are rare in other spinal diseases. The most common being the loss of reflex action to light, while the pupil still contracts to accom modation, the "Argyle Robertson" pupil or reflex iridoplegia.

Associated with this symptom is also a loss of the dilatation of the pupil on stimulation of the skin. Next in frequency, but very much less common, is paralysis of all the intrinsic muscles of the eye, the ophthalmoplegia interna of Hutchinson.

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The rarest is loss of accommodation, cycloplegia, without loss of reflex action.

If we embrace all of the pupillary symptoms, both slight and transitory and the more profound we will find them present, according to Erb, in more than one-half of all tabetic cases. Gowers in seventy-two cases of primary degenerative ataxia found the internal muscles of the eye affected in 92 per cent.

The percentage of his cases with pupillary signs was in the first stage eighty-four, in the second ninety-three and in the third one hundred.

In forty-one of our own cases already spoken of, the "Argyle Robertson" pupil was present.

When the light reflex is lost the pupils are often small, but not necessarily so. When there is loss of accommodation they are rarely very small, less than 2½ mm. and are often 4 or 5 mm. in diameter

The reflex dilatation of the pupil when the skin is stimulated is a phenomenon closely allied to the contraction of arteries which may be produced on animals by the stimulus of pain. The dilatation of the pupil may be obtained by irritating the skin of the face or the neck; it is double, that is, the stimulation of one side causes dilatation of both pupils.

The skin reflex is usually absent when the light reflex is lost; the skin reflex may be retained when cycloplegia is present.

Dr. Hughlings Jackson has reported a case where vision was absolutely lost by optic atrophy, in whom the Argyle Robertson pupil existed, and when the patient "made believe" look at the clouds the pupil enlarged, and contracted when he made the effort to look at a near object.

In examining the reflex dilatation which accompanies stimulation of the skin, precautions as follows should be observed: the eye should be shaded from a glare of light, voluntary movements on the part of the patient should be arrested during the test, as any movement being made the pupils being shaded will cause dilatation of the pupils.

Uhthoff[4] found reflex immobility of the pupil combined with preservation of reaction on convergence in 67 per cent. of all tabetic cases, and also the pupils were found to be unequal in one-fourth of the cases; one-sided cycloplegia was found in only five out of 166 cases. Reflex immobility of the pupil without reaction on convergence was found in thirty cases.

We must not omit the paralysis of the extrinsic muscles of the eye, that are so commonly seen in tabes, usually either the abducens or the motor oculi and rarely the fourth nerve, which give rise to various symptoms of dizziness, diplopia and strabismus. Graefe has pointed out that tabetic patients show little disposition to fuse the images in binocular vision, and this is taken as sign of the central origin of the affection.

These muscular paralyses are frequent in the early stages of the disease; they are transient often in character, and this fact has not been very readily explained. Ptosis is also present when no other branch of the third nerve is involved.

In 203 cases of tabes collected from various sources, paralysis of ocular muscles occurred in 52, or over 25 per cent.

General Paresis of the Insane.

In this disease, ocular symptoms are quite prevalent, and in great variety. Mr. W. B. Lewis, of Wakefield, England, has collected the histories of 60 patients, with the following result: Loss of reaction of the pupil to light, 78 per cent.; movements on accommodation, associated iridoplegia, 43 per cent.; reflex dilatation to cutaneous stimulation was lost in 63 per cent.; complete fixity of the pupil without impairment of accommodation was found in 15 per cent.; in 7 per cent., ophthalmoplegia interna occurred, although it was rarely complete as regards the ciliary muscle.

He summarizes as follows:

1. A loss of reflex dilatation to sensory stimulation occurs in a very large proportion of cases.

2. Reflex iridoplegia (loss of action to light) next to the preceding is the most frequent accompaniment of the disease.

3. Complete loss of movements of accommodation occurred in 25 per cent.

4. Cycloplegia associated with the latter in 4 of the 60 (more or less complete), and was found only in the advanced stages of the disease.

And he concludes that the sequence of morbid phenomena occurring in the iris is as follows: Paralysis of reflex dilatation to cutaneous stimulation, reflex iridoplegia probably shown at first by an initial contraction, followed by dilatation under full focal light, and passing into a later stage of immobility, and occasionally complete ophthalmoplegia interna. Optic nerve atrophy occurs and in 22 cases examined by Dr. Lanford, London, Eng., 3 were found thus affected.

Nystagmus is associated with tabes, but is a

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rare symptom in this affection, and is usually found in multiple-sclerosis. It has been ably set forth by Friedreich, who states that it is always bilateral, and that the movements of the eyes are rotary and irregular, as seen in the case presented to you. It does not occur during rest, but always on an attempt to fix the eye.

He considers it due to a form of ataxy of the movements of the eye, and speaks of it as ataxic nystagmus, and the cause to be due to a disturbance of the co-ordinatory tracts which lead from the centres of co-ordination to the nuclei of the nerves of the ocular muscles lying on the floor of the fourth ventricle, and that it does not occur in spinal disease until the medulla is involved. Pierret explains these movements on the ground of the primary disease of the sensitive root tracts of the trigeminus in the medulla.

Nystagmus is a very common symptom of multiple sclerosis, and it is increased by any effort of the will or any violent emotion. According to Charcot it is met with in one-half the cases.

In multiple-sclerosis of the cord we have temporary or permanent diplopia, due to paralysis of the various ocular muscles. Ambyopia is also observed, but it rarely, as in tabes, leads to positive blindness, with optic nerve atrophy, although in rare cases it does. The difficulty is probably due to nodules of sclerosis in the optic tracts and optic nerve. The paralysis of the external muscles of the eye, due to spinal cord disease, we will reserve mention of until a subsequent time, as the subject of ophthalmoplegia externa is of much interest and scope.—*Post-Graduate.*

1. Erichsen, "Concussion of the Spine," London, 1875.
2. "Failure of Sight after Railway and Other Injuries of the Spine and Head," London, 1869.
3. "Trans. American Opthal. Society," Vol. II.
4 Berlin, 'Klinisch. Wochensch." 1886, No. 3.

Diagnosis of Cancer of the Stomach.

Dr. E. Eisenschutz showed some anatomical specimens from a cancer of the stomach which had developed in a woman on the site of an old cicatrized ulcer. During life the clinical aspect and the chemical analysis of the gastric juice pointed strongly to the diagnosis of ulcer rather than cancer. Repeated examination of the vomited matter or the use of Boas' test-meal showed that the gastric juice contained free hydrochloric acid and that lactic acid and its corresponding bacillus were not present. Symptoms of contraction, frequent hæmatemesis, and the impossibility of retaining food on account of the incœrcible vomiting, made recourse to gastro-enterostomy necessary; the patient, who was greatly weakened notwithstanding efforts at rectal feeding, succumbed to the operation, and at the autopsy a neoplasm was found grafted on an old ulcer.

This case does not disprove Boas' conclusions as to the certainty of the formation of lactic acid in cases of cancer of the stomach, since Boas himself has stated that, while the presence of lactic acid in the gastric juice should decide the diagnosis of cancer, its absence should not cause this diagnosis to be rejected. On the other hand Rosenheim claims that when a cancer develops on the field of an ulcer of the stomach the chemical reaction of the ulcer persists; but that often after a certain lapse of time the hydrochloric acid disappears and lactic acid will be discovered as usual.

Dr. Teleky said that Boas' theory, which has been generally accepted, is now beginning to be disputed. For instance, in eight cases of pernicious anæmia, Ewald found the reaction of lactic acid without any trace of cancer in seven. The presence of lactic acid is not, therefore, pathognomonic in the diagnosis between ulcer and cancer.

Dr. Singer, on the contrary, believed that the repeated finding of lactic acid in the gastric juice has a decided importance in the differential diagnosis.—*Universal Medical Journal.*

Physicians and Malpractice.

So many suits for malpractice or damages have lately been instituted against physicians in different parts of the country that the following points from the *General Practitioner* will be found timely and interesting:

1. A physician is guilty of malpractice when serious injury results on account of his gross ignorance or gross neglect.

2. A physician is guilty of criminal malpractice when he administers drugs or employs any surgical procedure in the attempt to commit any crime forbidden by statute.

3. A physician is guilty of criminal malpractice when he willfully or intentionally employs any medical or surgical procedure calculated to endanger the life or health of his patient, or when he willfully or intentionally neglects to adopt such medical or surgical means as may be necessary to insure the safety of his patient.

4. A physician is civilly responsible for any injury that may result to patient under his care directly traceable to his ignorance or his negligence.

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5. A physician is expected by the law to exhibit in the treatment of all his cases an average amount of skill and care for the locality in which he resides and practices; further than this he is not responsible for results, in the absence of an express contract to cure.

6. A physician is not relieved of his responsibility to render skillful and proper treatment or reasonable care and attention by the fact that his services are gratuitous.

7. A physician is not obliged to undertake the treatment of any case against his will; but having once taken charge, he cannot withdraw without sufficient notice to allow his patient to procure other medical assistance.

8. A physician having brought suit and obtained judgment for services rendered, no action for malpractice can be thereafter brought against him on account of said services.

9. A physician is relieved of all responsibility for bad results in connection with the treatment of a case when there can be proved contributory negligence on the part of the patient.—*The Atlanta Medical and Surgical Journal.*

The Woodbridge Method of "Aborting" Typhoid Fever.

On the appearance of the first symptoms of typhoid the treatment is begun as follows: :

(No. 1.)

℞	Podophyllum resin,	1-960 gr.
	Mercurous chloride,	1-16 "
	Guaiacol carbonate,	1-16 "
	Menthol,	1-16 "
	Eucalyptol,	1-10 "

One capsule of the above formula should be given every fifteen minutes during the first twenty-four hours, and in larger doses during the second twenty-four hours, if found necessary, so that during this and the succeeding twenty-four hours there may be secured five or or six full and free evacuations of the bowels during each of these periods. On the third or fourth day the following treatment should be begun:

(No. 2.)

℞	Podophyllum resin,	1-960 gr.
	Mercurous chloride,	1-16 "
	Guaiacol carbonate,	1-4 "
	Menthol,	1-16 "
	Thymol,	1-16 "
	Eucalyptol,	1-10 "

One capsule to be given every hour or two.

No. 1, as well as No. 2, should be given very freely at first, gradually reducing the frequency of the dose, the object being to gradually reduce the number of movements of the bowels until the temperature has dropped to normal, when the movements should be only one or two a day.

Should symptoms of ptyalism manifest themselves the treatment should be promptly discontinued for a day or two, sodium or potassium chlorate prescribed, returning as soon as possible to No. 1 or No. 2. About the fourth or fifth day the treatment with No. 3 should be begun:

(No. 3.)

℞	Guaiacol carbonate,	3 grs.
	Thymol,	1 gr.
	Menthol,	1-2 "
	Eucalyptol,	5 m.

One capsule every three or four hours, alternating with No. 1 or No. 2.

During all the course of treatment the patient should wash down each capsule with large quantities of distilled or sterilized water, or in case it is indicated, some good laxative or diuretic mineral water is applicable to the case. It is claimed that if this treatment is begun early, nothing more will be required, and if carefully and intelligently carried out will rarely fail to abort typhoid fever.

During the last year or two no small amount of discussion has been had relative to this treatment. Many of the medical profession denounce it as a fraud and others uphold it as a valuable form of treatment.—*Columbus Medical Journal.*

Morphia Poisoning Treated with Permanganate of Potassium.

By J. E. Wamsley, M. D., Choteau, Mont.

At 5:30 P. M., December 31st, I was called to see Mr. M.; messenger stated that the patient had received two hypodermics of morphine from Dr. D., and was dying. When I entered the room I found patient entirely unconscious, pupils contracted to pin-head size, respiration almost absent and heart beats indistinct.

Having read of the wonderful effect of permanganate of potassium in like cases, I at once ordered patient stripped to waist and thoroughly slapped on the naked back by the hands of assistants. Violent spanking only caused slight reaction. I injected into the arm about 2 grs. of permanganate, and repeated the injection about a half hour later. Kept up the spanking process continually for an hour and a half, at the end of which time the patient could use one foot, but could not bear half his weight on his feet. At intervals I gave hypodermics of belladonna. At

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the end of an hour and a half the skin seemed so badly irritated from slapping that I substituted alternate applications of hot water cloths and ice bags to the back of neck.

Reaction continued and by 7:30 patient could walk. I discontinued medicines except strong, black coffee and had him walked around until after midnight. From the time I saw the patient until after midnight he was not permitted to sit down. While too limp to stand, he was held up by two strong attendants and spanked and slapped on the naked back by two others. I gave him about 8 grains, by injection, of the permanganate and believe it alone saved his life.

Next day the patient told me that Dr. D. had given him four hypodermics of morphia within half an hour.

The "doctor" seems to be pretty handy with his gun, as others who fell into his hands never reacted, and his own appearances would lead anyone to believe that his own system could stand possibly 2 grains half-hourly.—*Medical Sentinel.*

Shocks.

By Henry Bentall Evans, M. D., M. R. C. S., Lond.
Picton, Ont.

With the idea and result of shock we generally attach some great catastrophe, some great upheaval of nature, a devastating cyclone, the rush of a mountain torrent or mighty river, the lightning flash or the yawning earthquake. Or perhaps some human agency at fault—the fire king breaking aloof from his keeper, rushing in mad frenzy on his prey, and wrapping the victim in smoke and flame to a horrible death; or two mighty engines, like the fiery fabled dragons of old, with awful shrieks, rushing at each other, crashing and crushing life and limb into one unrecognizable mass. To those who have escaped from these terrors maimed and frightened we say, "They have had a shock," but some sleep on, and never recover from the awful impression made on the system, when the mental and physical faculties and functions are reduced to the lowest ebb. There is a different kind of shock when the post or a telegram tell of the taking off of some dear one; of the loss of health or fortune, or of some bereavement that leaves one friendless and forlorn in the wide world. These mental shocks strike deep and heavy, dragging down the bodily powers with them to everlasting decrepitude. A woman in the perilous hour of childbirth, at a moment's warning, is drowned in her own blood; pale and pulseless, with closed eyes and drooping jaw, she looks the picture of death. She has had a shock. Quick! hurry up, or the last heart-beat will sound the knell of her existence. The bullet rushes in upon the soldier's life; falls where he stood, cold and insensible: he feels no pain; no life-blood escapes from the gaping wound; he has had a shock, and will perish if aid and comfort do not soon arrive to warm and sustain his sinking frame. These examples are of common, every-day occurrence to the surgeon and physician, and sometimes he has a case which he does not diagnose as a shock, but it is really one, and a pretty serious one, too. My friend and patient went out for a drive on Sunday behind his trotting horse. The day was cold and damp, with an east wind blowing, scattering the autumn leaves in every direction. He is not a strong man; he is sufferer from rheumatism; his blood is full of uric acid; his heart is not intact. He has lead a jolly life, and his power of resistance is low. He came home stiff with cold and marked malaise; he passes a bad night, tossing about, restless and feverish. He is described as having *taken a cold*, but he has not; he does not even sneeze or affect a bronchitis, not a lobule of the lung is congested, and the delicate pleura slides gently over its shiny surface without an unnatural sound. The countenance is pale and shrunken, with a pained appearance; he is restless and uneasy, and the heart now shows itself in its true colors under this strain, weak, tremulous and uncertain; he is a very sick man and has had a shock. Now we would think that the ganglionic system would escape the force of this and expend itself on the cerebro-spinal, but no, it sympathizes intensely with it, the latter. Stomach, bladder and heart respond to the shock. Everything, even pure water, is rejected; the neck of the bladder shows its irritability by compelling the patient to urinate frequently, a dysenteric flux invades the lower bowel, and the heart threatens failure. Yes, but thank God, we will soon compose him, and send him into sweet forgetfulness of his sufferings by aid of the magic drug. But no, the smallest dose, hypodermically administered, sets up the most distressing vomiting, and our sheet anchor fails. The bark seems to be drifting on the rocks of eternity. Now, here is a distressing case—a man without a disease threatened with dissolution; and requiring the utmost care and circumspection to restore him to health. This is a shock, sometimes called heart failure, often a bad cold. The consulting physician comes along and orders digitailis, etc.

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Admirable, most learned brother, but if the stomach says no who shall say yes? These are distressing, worrying cases. There is nothing heroic about them. They are a conglomeration of mean, miserable ills that bring neither profit or reputation to the physician.

The treatment is plain—warmth, stimulants and sleep—but how often does it happen that a man who has spent a gay and festive life, on the least exciting cause, traumatic or otherwise, shows symptoms of great nervous tension, the leading feature of which is insomnia, with intense depression. It is then the weak points of his constitution show up and must be heeded as they arise.

A Practical Test for Albumin.

Although a number of exact methods for the the examination of urine to determine the presence of albumin have been known for years, for practical purposes it is important to use that method which will combine accuracy with ease and rapidity at the sick bed. Ott knows of no reagent which fulfills this purpose better than sulphosalicylic acid. This will at once show the presence of the smallest amount of albumin in the urine by causing a cloudiness when added to the urine in which albumin is present. The sulphosalicylic acid may be added, either in 30 per cent. solution, or in substance, as the crystals dissolve rapidly in the urine; the reagent can therefore be easily carried in the pocket. All that is necessary for an examination at the house of the patient is a test-tube and a bottle containing sulphosalicylic acid in substance, as this agent is hygroscopic. A glass stoppered bottle is desirable. To examine the urine filtered, a small glass funnel and filtering paper are necessary, all of which can be easily put up in a small portable wooden box and carried in the pocket.

Another reagent, which, though not as convenient, is recommended by Spiegler, it consists of

Mercury Bichloride, - -	8 gme.
Tartaric Acid, - - - -	4 "
Water Distilled, - - -	200 "
Glycerin, pure, - - -	20 "

Of this solution a small quantity up to 1 to 2 ctm. is poured into the test-tube, and the urine, which has been made slightly acid with concentrated acetic acid, is added to it. This is an extremely sensitive reagent, which will show traces of albumin when none of the well known methods will do so, being almost superior to the sulphosalicylic-acid reaction in this respect. Prof. Dr. A. Ott, in *Prag. Med. Wochenschrift; Amer. Med. Surg. Bull.*

The Treatment of Puerperal Eclampsia.

Dr. Thaddeus A. Reamy, of Cincinnati, in a paper on this subject read at the American Gynecological Society, related about half a dozen cases of puerperal eclampsia which were treated successfully by large doses of Norwood's tincture of veratrum viride, or by this agent combined with morphine. Most of the patients had been treated unsuccessfully by other means before he was called. Nothing could have been more striking than the promptness with which the convulsions had been arrested as soon as the veratrum viride had had time to act upon the heart and vaso-motor system. It had been shown by Dr. Jewett, in 1887, to be one of the most potent spinal and arterial depressants. It produced general vaso-motor paralysis. The advantage of the agent went further than to arrest the convulsions, for it produced copious perspiration and diuresis, and thus rid the system of the toxic ingredients producing the convulsions. The patient could take half a drachm of the tincture without danger, and he had given twenty-five minims hypodermatically. If alarming symptoms developed, they could be counteracted by morphine. It had been said that blood letting would accomplish the purpose, but it was less effectual, was not without danger, and deprived the patient of blood which she would need afterward.—*Medical Review.*

Vomiting in the Diagnosis of Scarlet Fever.

The diagnosis of eruptive fevers at the onset is often so delicate, especially in light forms, that it is useful to report the slightest symptoms. Valli-Attilio (*Gaz. d' Osped.*, No. 129, 1895) epecially notes the occurrence of vomiting entirely different from that observed in other eruptive fevers. This vomiting occurs very early, before any other morbid manifestation, and, in the absence of any previous gastric trouble, it surprises the child in the midst of play and before the appearance of headache, malaise, fever, or initial angina. In a number of cases of scarlet fever without exanthema the diagnosis was decided solely by the vomiting and the angina following it. The proof that this symptom belongs to the scarlet fever and not to an ordinary angina is that several cases of angina where it existed were complicated with nephritis, and that children subject to recurrent angina never vomited until the day they had scarlet fever and its characteristic angina.—*Universal Medical Magazine.*

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The Cigarette Habit.

Dr. J. C. Mulhall, of St. Louis, himself a cigarette smoker for twenty-five years, disperses the popular delusion that when the smoke of a cigarette is "inhaled" it pervades the air vessels of the lungs and the nicotine it contains is all absorbed into the blood through the delicate respiratory membrane. As a matter of fact, the smoke reaches only to the larger bronchial tubes, probably in a majority of instances not to a point much below the larynx. To the mucous membrane of these large air passages the smoke does little harm as an irritant, although it may aggravate pathological conditions already present. The surface by which nicotine is absorbed into the blood is much larger than that of the mouth, however; so that although relatively only a little of the poison is contained in a cigarette, much more of it finds its way into the system than when the smoke from a cigar or a pipeis simply drawn into the mouth and at once blown out. The inference to be drawn from this is that the inhalation of tobacco smoke is a bad practice. That it is more likely to be indulged in by persons who smoke cigarettes than by those who restrict themselves to cigars and the pipe may be readily conceded. At the same time it is quite certain that many smokers inhale cigar smoke and pipe smoke at times, if not habitually; sometimes they do it involuntarily. Dr. Mulhall expresses himself against the common assumption that cigarettes are especially injurious on account of their containing other poisons besides nicotine. So far as the constitutional effects of cigarette smoking are concerned, he states, as the result of fifteen years of careful study of the matter, that they are absolutely the same as those of tobacco used in any other form, and he cites Ledaux, who has subjected various brands of cigaretter to chemical analysis, as having found absolutely no evidence of any other drug but nicotine in the tobacco, and in the paper a harmless quantity of cellulose. It is indeed, the height of absurdity to suppose that cigarettes are sophisticated with opium. Opium,as has been often said,is too expensive to be used for such a purpose. The chief evil of tobacco is its constitutional effect upon the nervous system; and, as the cigarette habit is so common in boys, it is to be deplored on that account; but as far as its local effects on the larynx are concerned, the author has been unable to discover any but trivial hyperemia and secretion.—*New York Medical Journal*, November 30, 1895.

Early Signs of Intestinal Perforation.

Prof. A. L. Gluzinski, of Cracow, has observed two signs which enable the physician to diagnose the occurrence of intestinal perforation before peritonitis has had time to manifest itself (*Semaine Med.*, November 6, 1895). The first of these signs consists in the distinctness with which the murmurs of the heart and respiration can be heard by auscultation of the abdomen, a phenomenon due to the presence of intestinal gases in the peritoneal cavity. The second and more important sign is the change in the pulse, which, at the moment of perforation, becomes accelerated, to slacken some hours later. This phenomenon, due to the absorption of putrid gases acting like a cardiac poison, is, besides its diagnostic significance, of importance, from a surgical point of view, as indicating the most opportune moment for operation.—*Universal Medicial Magazine.*

A Difficult Diagnosis.

Judging from recent occurrences at the trials of Duestrow and Dreher it is, even for experts, in some instances, a hard matter to judge whether a person is insane or not. Before having completely recovered from the surprise of what had taken place at Union, where this difficult diagnosis was left to the ultimate judgment of a dozen unsophisticated tillers of the soil, we glean from the papers that a similar difficulty in diagnosis exists in the almost equally notorious case of Chas. Dreher, who killed his sweetheart. The difference of opinion, however, becomes somewhat intelligible upon reading the statement upon the witness-stand, made by two prominent experts at the latter trial, according to which one has treated only 20,000 insane subjects, while the other claims to have treated about 2,000,000. If a correct diagnosis would depend in this case upon the experience of the diagnostician the latter would certainly have the advantage slightly.—*Medical Review.*

Dr. G. D. Ladd has severed his connection with the firm of Marks, Ladd & Smith, and is to be found on the corner of Jefferson and Mason Streets.

Miss Carey, of St. Joseph's Hospital, Chicago, has assumed charge of Trinity Hospital in place of Miss Colburn, resigned.

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Original Articles.

"Floating" and "Movable" Kidneys; Their Symptoms, Diagnosis and Treatment (Non-Surgical and Surgical: "Nephrorrhaphy.")

By Lewis G. Nolte, M. D., of Columbia.

Professor of Operative Surgery and Surgical Anatomy Milwaukee Medical College; Surgeon to Milwaukee Hospital; Surgeon to Emergency Hospital; Lecturer Deaconesses' Training School of Milwaukee Hospital; Member of American Medical Society; Member Milwaukee Medical Society; Member Wisconsin Medical Society; Member Brainard Medical Society, etc., etc.

Floating kidneys are also spoken of as "wandering kidneys." In this affection, if I may so call it, the kidney ceases to be firmly imbedded in the fat usually found in lumbar region, constituting a support and packing for the organ as well as for the suprarenal capsule, and is allowed more or less liberty of movement, which is restrained by a pedicle consisting of the ureter, vessels and nerves, with more or less connective tissue. Normally only the anterior part of the kidney is covered by peritoneum. But when it "wanders" it is displaced forward, and usually downward, and is almost or entirely covered by peritoneum, which also invests a longer or shorter pedicle, as the case may be. This special investment of the ureter is called the "meso-nephron." The extent of the excursions vary; the tumor thus formed may come in contact with the anterior abdominal wall, may hide under the liver, or may even be found in the pelvis in some cases.

The affection is found by far more frequently in women than in men, and the right is most often affected; sometimes, however, both are affected. It is more frequently found in women whose work is severe, and in women who have lax abdominal walls.

Some authors make a distinction between a "movable kidney" and a "floating kidney." Thus, by a "movable kidney" they mean one that has an abnormal range *behind* the peritoneum; and by a "floating kidney," one where free movement of the organ is possible on account of meso-nephron. These authorities state that in the latter case the condition must be congenital. In the class designated by them as "movable kidneys" they assign the same causes frequently given by other authors to all (both) classes, viz.: wasting diseases with disappearance of the tunica adiposa, lax abdominal walls, falling from horseback, rough riding, wearing tight cords around the abdomen with heavy skirts suspended, heavy lifting, straining at stool in the chronically constipated (who also have loose abdominal walls). Their view of the subject seems to me a correct one, and their division a wise differentiation.

Symptomatology.—Symptoms vary greatly in kind and amount. Neither the local nor the general symptoms are necessarily proportionate in severity to the amount of displacement.

Contrary to what might be expected, the rule is that the displaced kidney is healthy, and the symptoms are therefore not usually (there are decided exceptions) referable to the urinary apparatus. Cystitis and uterine affections have been observed in this connection, but it is doubtful if any relation other than coincidence or a mutual dependence upon impaired general nutrition and overwork exists between them.

Hysteria and hypochondriasis are frequently observed. Abdominal discomforts and pains, especially of a dragging character, are very commonly observed in these cases. Flatulent dyspepsia and dilatation of the stomach are very frequently found associated with dislocated kidney. What might be justly called neuraesthenia is common to all of them, in my opinion. The patients have frequent "bilious attacks." In a number of cases I have observed attacks of what

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resembles renal colic; *i. e.*, frequent desire to urinate, associated with great pain and a dribbling of urine; there is also nausea and vomiting. The pain radiates from the loin to the abdomen and bladder. These attacks may come on as often as every week or as infrequently as once in six months. But at all times the patient feels that everything is not right, and she feels most comfortable when lying down. Some few feel fairly comfortable.

Diagnosis.—The diagnosis is not usually difficult. First of all, keep in mind the possibility of its occurrence and look for the kidney. Some patients will tell you that they have a tumor. In thin persons you can usually make out a kidney-shaped tumor, and often even feel pulsation of the renal artery. The tumor can be moved about freely, and usually is easily brought back to its normal position. Palpation and percussion over the loins to determine the presence or absence of the organ are of no value, because the muscles are too thick. But pressure over the lumbar muscles with one hand, while the other hand palpates the abdomen, is of much greater value. This is especially true if the patient be placed on the healthy side, or in the hand-and-knee position, or stands erect. It is needless to say that all clothing must be removed from the parts.

The liver, gall-bladder and spleen have been mistaken for a floating kidney; they ought not to be. Ovarian tumors should be and are, as a rule, easily differentiated. Malignant omental tumors at first might present difficulties, but not for a long time.

Treatment.—A correct diagnosis is often all that is necessary to relieve the patients' mind, and thus to practically cure them. These patients should never wear tight corsets, girdles, cords, or have any weight (skirts) suspended from these; they should never do heavy lifting. The so-called corset-waists with shoulder-straps (suspenders) and without whale-bones or "steels" are proper; the skirts are fastened to these, and thus the weight is transferred from the waist to the shoulder. The bowels should be properly regulated to avoid straining at stool. These precautions will tend to relieve many.

Abdominal pads and bandages are of no value. If the moral and hygienic treatment just mentioned do no good, then the patient must be operated upon. Removal of the kidney (nephrectomy) is hardly justifiable, in my opinion, unless the kidney be diseased, or the operation we are now about to consider (nephrorrhaphy) fails to cure the patient.

Nephrorrhaphy.—Let us first consider the surgical anatomy of the kidneys. The kidneys are situated normally in the right and left hypochondriac regions. Their lower edges are somewhat above the level of the umbilicus. The right kidney is three-quarters of an inch lower than the left (on account of the liver). Their upper border is on a level with the interval between the eleventh and twelfth dorsal vetebral spines. The lower border is about two inches above the crest of the ileum on the left side and about one inch and a quarter on the right side. The hilum is about on a level with the first lumbar spine and about two inches from the middle line; the outer border about four to four and a half inches from the middle.

Both kidneys lie behind the peritoneum, the anterior surface, which also looks outward, being covered more or less by that membrane. They are kept in position by their vessels and by a bed of adipose tissue which surrounds them. The posterior surfaces look inwards and backwards, and rest upon the diaphragm, lumbar fasciæ and the psoas muscles. In front of the right are the liver, the second part of the duodenum, and the hepatic flexure of the colon; the position of the latter being of especial importance, as it is pushed forward by enlargements of the kidney when they exist. It is thus an aid in diagnosis, and its position has also to be borne in mind while operating. In front of the left are the stomach, spleen, pancreas, and the descending colon.

The blood supply comes direct from the abdominal aorta. Before entering the kidney the renal artery usually divides into several branches, and there is not infrequently a second or inferior renal artery coming off from the aorta further down. Renal arteries may also arise from the common iliac, the inferior mesenteric, or the middle sacral arteries. More rarely a renal artery has been seen arising from the internal iliac, and one case is recorded in which both renal arteries

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sprang from a common trunk on the front of the aorta. The right renal artery is longer than the left, and passes behind the vena cava inferior. The left vein is the longer, and passes in front of the aorta and posterior to the third part of the duodenum.

Each kidney is entirely invested by a strong fibro-elastic capsule called the tunica albuginea, which is turned inwards at the hilum, and forms sheaths for the blood vessels entering the organ.

The ureters are about fifteen inches in length. They are situated behind and quite free from the renal blood vessels, and pass obliquely downwards and inwards from the kidneys to the bladder, lying posterior to the peritoneum throughout their whole course. They have the appearance of whitish collapsed tubes the size of a goose-quill. Having crossed the common or external iliac vessels—the right one behind the termination of the ileum, the left one behind the sigmoid flexure of the colon—they enter the true pelvis and pass downwards, forwards and inwards to reach the outer wall of the bladder, being then situated about two inches apart.

Sometimes the kidney is found permanently *fixed* in an abnormal situation, due to either an acquired or congenital displacement. In its altered position the kidney will be found lying either in front of the sacro-iliac synchondrosis, in the iliac fossa, in front of the sacral promontory, or more rarely entering the true pelvis. Except from a diagnostic point of view these displacements are not of much importance surgically; but if the condition were not known, or were forgotten, an unnecessary exploratory incision might be made to clear up a diagnosis. This condition is known as the "*displaced kidney*."

Having carefully considered the surgical anatomy, we will now take up the operation of nephrorrhaphy. The incision is made in the space between the ribs and the crest of the ileum. In some there is plenty of room in this situation for carrying out all the manipulation which is required. In others the costal margin and the ileum may be so close together that it is advisable, when the patient is lying on the side, to place a small firm pillow so as to raise the opposite side, and thus enlarge the space through which the incision is to be made by causing a lateral curvature of the spinal column. Before commencing the incision, the last rib is to be found, and it must be remembered that the twelfth rib may vary in length on the two sides. It is of importance to be perfectly certain that the twelfth rib has been found, because if a mistake were made and the eleventh taken as a guide, the pleura, which is attached to this rib, might easily be opened, should it be found necessary to enlarge the incision.

Commencing a little below the twelfth rib, and immediately outside the mass of the erector spinæ muscle, the incision is carried for at least three inches downwards and forwards, the exact line depending on the amount of space between the ribs and the ileum of the patient. The incision is deepened until the tunica adiposa is divided and the capsule of the kidney has been reached, scissors being used for this purpose, and the straight line being kept up by the help of forceps. As soon as the capsule is reached, or before the incision is completed in its whole depth, if the bleeding be profuse, all the vessels are secured by catch forceps, and they are twisted or tied at once to avoid inconvenience from the presence of the forceps. When the incision has been completed, the assistant, with his hand on the abdomen, pushes the kidney, which might, and probably would, be out of reach on account of the position of the patient, backwards, upwards and against the wound, and he must continue this pressure until the stitches have been introduced. For suturing the kidney a short curved needle with needle-holder is required (Sims' or Hagerdorns').

The stitch is passed through the tissue of the wall near the kidney on one side, through the fibrous capsule only if silk be used, or, also through some of the parenchyma if absorbable material be used, and then through a corresponding extent of the wall on the other side. It is best to use a number of sutures, and after they have been introduced, the fibrous capsule is to be thoroughly scarified, as well as the tissues which will be in direct contact with the kidney. Bleeding must be carefully stopped. The sutures are tied; these sutures will be completely buried when the wound is closed. If any difficulty is encountered in closing the wound, a buried layer of cat-

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gut sutures (Etage sutures) should be employed. It is usually best to dispense with drainage; should any oozing take place, a strip of gauze may be introduced and left for 1–2 days. Besides cat-gut, which is probably the best suturing material in these cases, silk, animal tendon and silkworm-gut have been employed with success. The external wound is closed with alternating silk and cat-gut sutures.

Some leave the kidney intact and suture only the tunica adiposa; a bad plan, in my opinion. To introduce drainage simply to cause inflammation is bad surgery; it only invites sepsis.

To ensure success the patient should remain on his back for three weeks; even when this is done the result is not always entirely successful, but happily this is rare.

Removal of the kidney is only justifiable when the operation just described fails after having been well performed, or when the kidney is not healthy. In the latter case, however, it is necessary to be sure that the other kidney is sound.

The risk in nephrorrhaphy is no greater than in any other operation, and the patient's future health is not interfered with in any way.

After the patient gets out of bed she must observe all the rules of dress, etc., that I spoke of in referring to the cases treated non-surgically, for at least a year, or better still, as long as she lives.

Facts and Factors in Surgical Diagnosis.

BY C. W. OVIATT, M. D., OSHKOSH, WIS.

Read at the Alumni Meeting of the Milwaukee Medical College.

"How can we reason
But from what we know?"

Mr. Herbert Spencer has truthfully shown that all knowledge is relative; that we cannot reason outside of relation.

To comprehend the factors and relations involved in a surgical diagnosis, implies a thorough knowledge of the elementary studies upon which the principles of the science and art of surgery are established, that our reasoning may be correct. To possess a knowledge of a given pathologic process one must have a definite idea of the normal histology of the structures involved, and also the cell changes which characterize deviations both physiologic and pathologic.

Before attempting to define the line of departure from the normal standard, *normal variations* must be taken into account and well understood. This is well illustrated in the use of the ophthalmoscope; to be able to recognize a diseased fundus, it is necessary to be familiar with its many normal variations in appearance. The same is true of auscultation and percussion; it is necessary to be familiar not only with normal sounds, but with all their variations within the normal limit, to correctly interpret their meaning. It may be well to say *en passant*, that it is of the utmost importance that the surgeon be well versed in physical diagnosis, for from him are expected definite opinions which he may be called upon to verify at the operating table. He should, therefore, cultivate the careful study of physical signs as an inestimable aid in his daily work.

This has been called the age of specialism in medicine, and while there can be no doubt as to the advantages of special work in the various departments, the good is often more than counterbalanced by the almost unavoidable tendency to narrow the field of vision to the range of the individual specialist. The oculist seeks the cause of every headache in some error of refraction; the gynæcologist looks for the cause of the same symptom in some local condition of the pelvic organs. There may be a germ of truth in the reasoning of each, but their success will be just in proportion to their ability to comprehend the organism as a whole instead of having their conception narrowed down to a special field.

This comprehensive contemplation of a patient as a complete organism is especially necessary in surgical work. The surgeon should, therefore, possess a diagnostic acumen that reaches into all departments of the profession. In addition to a knowledge of physical signs before mentioned, he must have a practical knowledge of microscopy and bacteriology.

A case of splenic lukæma may be sent to the surgeon because of the supposed tumor developing in the abdomen. He counts the blood-corpuscles, and is in a position to speak in definite terms regarding the case. It is the surgeon who cannot make this diagnosis who makes an exploratory laparotomy and brings disredit upon himself and the profession in general.

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In cases of recurring carcinoma of the breast, if it can be clearly determined that the recurrence is purely local, our duty in offering a secondary operation is plain; a careful physical exploration of the chest, however, may reveal friction sounds over the anterior wall, with perhaps a little free fluid at the bottom of the pleural sac, showing unmistakably that there is a metastatic deposit within the chest. If more painstaking and careful examinations were made there would be fewer useless and unwarranted operations.

In cases of peripheral tuberculosis it is of the utmost importance to be able definitely to determine the existence of pulmonary or general infection, as well as the limit of the local manifestation, before advising operative mesaures.

The importance of determining true tumors from inflammatory swellings is well recognized in modern work. It has been stated that the majority of successful operations for cancer of the tongue were probably cases of syphilitic ulcer. That such a mistake can easily be made makes it more imperative that an exhaustive research be made in the clinical history and physical appearance. In cases of doubt, specific treatment should be used for a sufficient time to settle the matter before resorting to a surgical measure.

In the study of tumor development, each growth must be referred to its proper embryologic origin and classified accordingly. As Linnæus brought order out of chaos in natural history by establishing his binary nomenclature, so Virchow placed the study of tumors upon the first round of advancement by his attempt at classification from a histologic standpoint. Cohnheim's theory that all true tumors are due to faulty embryonal development stands as an hypothesis which is satisfactory, and in the absence of proof to the contrary will remain, notwithstanding the fact that it still leaves much unexplained.

It is of the utmost importance to gain as much knowledge as possible of the early history of a tumor, as it may frequently aid in determining the blastodermic layer in which it had its origin.

The microscope is of inestimable aid in the diagnosis of tumors, but should not be relied upon to the exclusion of the clinical history or physical factors upon which a surgical opinion may be based.

Since opening the abdomen has come to be attended with so little risk to life, because of careful antiseptic measures, exploratory abdominal sections have become much more frequent. While in rare instances it is undoubtedly impossible to determine intra-abdominal pathologic conditions in any other way, it should be a means resorted to only after every known resource has been exhausted in a careful, patient and painstaking manner. The most rigid precautions cannot eliminate all sources of danger in an abdominal section. Then, too, we must hold ourselves, in a measure, morally responsible if we subject a patient to what proves to be a useless and unwarranted operation. Extreme care in the study of the case will usually keep us clear of these breakers.

Temperature is an important factor in surgical diagnosis. By means of the thermometer we are often able to decide whether an obscure trouble is inflammatory or not, but we must not forget that it has recently been shown (Senn, "Pathology of Tumors," page 563) that an internal sarcoma may give rise to an elevation of temperature that makes it almost impossible to differentiate from a true inflammatory phenomenon, as, for instance, tubercular peritonitis or typhoid.

Pain *per se* is almost absolutely unreliable as a diagnostic feature, and can only be made available when considered in connection with other phenomena and the clinical history of the case, as it is often referred to a point remote from the initial lesion.

In closing I would make a plea for more time and care in studying every possible factor bearing on each individual case before expressing an opinion.

The *Independent* says: "It is remarkable that in this day of germs and germicides nobody has invented a sanitary library card catalogue.

Every one that recalls the unspeakable filth of the old and now deported card catalogue of the Astor Library must suspect that it was a highly effective agency in the spreading of disease.

The bound catalogue is perhaps even worse, for an attentive observer must often have noticed that the average reader in a public library turns the leaves of a catalogue with the aid of a finger dampened by application to his own lips.

The commercial exchange of germs by this method must reach a vast volume of transactions in the course of a year.—*Langsdale's Lancet.*

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Doctors and Dentists.

BY DR. GEORGE V. I. BROWN, DULUTH, MINN.

Reply to Toast—Banquet of Milwaukee Medical College, April 24th, 1896.

MR. TOASTMASTER AND GENTLEMEN—When a young man graduated in olden times, as a magician, he was required, for a final test, to run through a long, dark hallway, pursued by the devil. If he escaped without being caught, all was well with him.

Now, I used to be something of a sprinter, but evidently am not speedy enough to outrun Mephistopheles, for, you see, I am caught and am a victim at your service. My condition is very like the native of that Emerald Isle, the birthplace of all truly good New York and Chicago police, who, after many years' residence in this country, having waxed fat and prosperous upon well-administered city contracts, went back to the land of his birth for a visit, and upon his return to this country told of a great joke he played upon the Hibernians. He said: "Won day Oi disgoised meself and wint to Kilkinny fair, and, would ye balave it, the divil a wan of thim all could tell Oi was an American." That just exactly fits my case, for, though not disguised, I am sure "the devil a one of yous" could tell whether I am a doctor or a dentist; but, whatever I am, there is one thing of which there can be no mistake: My heart, soul and mind are bent upon the drawing of dentists and physicians together in the communion of their daily practices.

Alive to the necessity of more frequent consultation, for years I have tried to spur the dentists in their gatherings and wherever possible, and now, having, as I hope, earned the right of common fellowship, I hope to bear some influence among the medical men.

They are all wonderful diagnosticians down here in Milwaukee, and when notified that the toast "Doctors and Dentists" had been assigned me, at once it became evident that my malady had been correctly diagnosed, but I felt quite sure no one understood the severity of the attack. It seems to be in a measure incumbent upon me, although a very young member of the medical fraternity, at this, my christening, to criticise some of the fallacies of the medical teaching, and as one can always talk with more confidence and freedom of the thing he knows least about, anti-toxin seems, perhaps, of all topics, the most suitable for me in this respect. I read with interest the other day an article in the *Contemporary Review*, in which the writer discusses "Anti-toxin from a Patient's Standpoint," he having been treated for diphtheria in one of the hospitals, where anti-toxin was used upon him in a fearful and wonderful manner. He cautions against its general adoption into practice in no unmeasured terms, saying: "The after-effects of the anti-toxin in his case, and that of others, was much more serious than the original disease." After his so-called recovery and discharge as cured, the bacteriologist being no longer able to discover the much-dreaded bacillus, he was taken with a temporary blindness, dizziness in his head, causing him to stagger and almost fall, helplessness of his lower limbs, and a disinclination to move, amounting to almost paralysis. Though the writer refers later on to the broken-down cab horses as a medium for the production of the serum, evidently, not being a horseman, it did not occur to his mind to account for the symptoms, as I, with quickness, acquired doubtless through my association with your honorable hosts and a horse experience of freer, if not happier, years, was able to do; I saw at once he had simply acquired the marked characteristics of his particular cab horse. What is more natural in cab horses than dimness of vision, head staggers and a weakness of the hind legs, to which add the natural disinclination to move, and the picture is complete. Doubtless a later report in this case will show the spavins beginning to develop, and we will find him neighing for oats. But I carried the idea still further, and wondered if, after all, anti-toxin might not, like many newly-advocated remedies, prove to have been used long years ago; that, if this could be proven to be true, and if donkeys had been used instead of horses, what an interesting problem of sociology it would be to thus trace out and account for many peculiarities noticeable among our acquaintances?

Having gained a little confidence by the discussion of the remedy I know least about, I turn with pleasure to iron, the one thing of all the pharmacopœia which I know the most of and

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am the most interested in, but here again blushes arise for the ignorance which stamps its use.

Reference to the teaching of my friend, Prof. Hill, and others of the best authorities upon materia medica, show that it is useful in various preparations as a tonic astringent, and ascribe it a limited usefulness in many ways, but where is the materia medica which will tell you that by proper administration iron can be the wildest of all intoxicants, that it can cause delirium, and can be a heart depressant of a most dangerous nature? Yet I know this to be true. Do I not live in Duluth, at the border of the great iron ranges, extending from the Mesaba with its two hundred million tons of ore in sight, and millions of tons more being shown up every month, through the great hard ore Vermilion deposits of unknown depth, on north and east through the magnetic belt, where outcrops of iron appear and reappear for a distance of nearly one hundred miles, from which, by reason of the nickel this ore carries, they are preparing to make nickel steel? Have I not plodded with snow-shoes and on foot through many of these weary miles in my diligent study of this remedy, and have I not seen hundreds of men, and women, too, filled with the dreams of this wonderrul elixir beside which the utopian fancies of the opium eater, or those engendered by Cannabis Indicus or the tropical hasheesh are as but a lazy stupor?

It is true that the form of prescription was somewhat different from those in general use among physicians, more elaborate perhaps, with engraving and gold seals, yet none the less just as fatal were the terrible symptoms of an overdose, with depression of spirits, a heavy, labored action of the heart that can with difficulty be described or fully appreciated by those who have seen or felt the sad effect.

Somebody has said that Turner, the great artist, "thought in paint, and that formerly physicians used to think in symptoms, but the medical men of to-day must think in cells and organs." This seems to be a good idea. We have found by experience that many bankers and great financiers can think better and more safely in cells, and it would seem not unreasonable that many practitioners of medicine might do likewise.

There is a feeling among dentists akin perhaps to that which prompted the all-ambitious Cicero, who, when his friends said to him at the beginning of his career that the name (Cicero), which meant only a vegetable, was not sufficiently high-sounding for one with such great aspirations, and advised that he change it for one more suitable, replied, "I will keep my father's name, and will make it honorable;" and when later we find Cicero writing to the historian, asking him to give even more credit than perhaps he might think he was entitled to, we realize how heavily must have weighed the value of his name against all-powerful ambition. This in a measure voices the feeling of the dentists of to-day, who cling to the old name in preference to being called oral surgeons, surgeon dentists, etc. Doubtless this is why but a handful, comparatively, of the dentists who are doctors of medicine as well as doctors of dentistry attend the Odontological Section of the American Medical Association, a far greater number going in preference to the individual organization, the American Dental Association. Yet one of the most important steps of modern advancement in both professions was the establishment of this same section and the recognition by membership in the American Medical Association of all that portion of the dental profession who are entitled by reason of the possession of the medical degree, due directly to the efforts of the late Dr. Allport and Dr. Talbot, of Chicago, with their friends.

Many feel that overtures were not treated in the proper spirit by the physicians of the past, and that now, when advancement has perhaps been more rapid in dentistry than in any other special branch of medicine, they refused to be patronized or adopted.

Narrow-mindedness upon the one hand has begotten narrow-mindedness on the other, and, by one who would judge fairly, must be admitted on both sides, yet in my intermediate position I feel sure great forces are at work to break away even the last remnant of such prejudices. The education of dental and medical students together in the same institution is the great factor hopeful for the future in this respect. More of the medical teaching will make the dentist more familiar with the proper technical expressions, more cognizant of the general understanding of the medical prac-

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titioner; in short, more ready and fit for profitable consultation. On the other hand, the medical student thus educated will have a greater respect for the knowledge of his dental confrere, but more than all is the power of association, the formation of friendships, the influence of his associates, quite aptly illustrated in the March number of the *Forum* by Charles Thwing, who discusses "The best things that college does for a man," and among the opinions given of men who have become prominent in after life, graduates of Yale, Harvard, Cornell, Brown, Amherst, etc., are many that say their greatest educating influence was the association, the stimulation, encouragement and good fellowship of other students.

All agree that students are educated as much by each other as by the professors. An officer of Yale College, on being asked which was the stronger influence over students, the students or the professors, replied unhesitatingly, "The students."

In the boom days of my Zenith City home, Duluth, it happened once that an investor from down East said, in conversation with one of our citizens, who was holding forth as usual upon the only topic, that there was one thing that he had noticed which they had in the little town where he lived that they did not have in Duluth. The Duluthian, without waiting for anything further to be said, sprang to his feet, saying excitedly, "Tell me what it is, and we will have it in less than thirty days." The answer was, "Malaria; you haven't got malaria."

I believe that if the directors of the Milwaukee Medical College were told of something another college had that their school did not have, they would get it at once, even were it the small-pox.

Here's to the Doctor, whose helping hand
Is the first to greet as we enter the land,
And courteous always, as ever brave,
He bids us adieu at brink of the grave;
And all the days through all the years,
He soothes the sufferer, calms his fears;
In sickness, in sorrow, in storm and cold,
His deeds of mercy are yet half told.

And here's to his brother, the second son,
The surgeon knight, the mighty one;
For lords and nobles of high degree
Are all quite well in their way, you see,
But he who, by reason of subtle skill,
Can grapple with death, defy his will;
Who daily prolongs the span of life
By the skillful use of aseptic knife,
Has reached the summit, the topmost stone.
Above all the world, he stands alone.

And here's again to still another,
The babe in arms, the little brother;
But mark him well—this infant still
Has yet his mission to fulfill.
A charge has he. Some all-wise fate
Has made him the captain of the gate,
To guard and keep with watchful care,
To challenge all who enter there.
At gates of Rome a thousand men
Were stopped by three, and so again
The enemy hosts of human kind
A worthy foe must surely find,
This artist, mechanic, artisan child,
The Doctor of Dentistry once reviled,
But like the stone the builders passed,
To become the corner-stone at last.

Here's to them all with a right good will.
Hurrah! for the dentists and doctors still.
Hurrah! for the schools that foster their knowledge,
Hurrah! for Milwaukee Medical College.

Valedictory Address

Delivered at the Commencement Exercises of Milwaukee Medical College, April 24, 1896.

By DR. GEORGE DEWEY.

LADIES AND GENTLEMEN—As we look about us and see the great changes occurring from day to day in all lines; as we see the mighty engines, with their mechanical power, performing the works of thousands of men; as we see the advanced condition of the world in all lines of human progress—we are stimulated to investigation, to research, in order that we may discover the forces which have actuated man to invention, and to find the path by which he has attained the present advanced condition. By close observation we will find many of his incentives visible, but a larger number unseen. We will find, although he has gained much from experience, there were implanted within him, in common with all organic creation, unseen forces which act with an irresistible power.

Taking a seed and putting it into the ground, it grows, under favorable circumstances, as large as the plant which produced it. The new-born babe, in all his weakness, his powers limited as they are, yet possesses within himself that which leads him on from one advance of development to a still higher, until he stands before you in all the

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glory of his manly vigor. Everything which lives possesses this inherent power of development.

As we peer into the past and observe man in his prehistoric condition, we find him perfect in physique, but little removed from the brute with whom he shares the products of the wilderness; wandering hither and thither as caprice or the necessities of appetite dictate, with no shelter but the interwoven branches, a rock or a cave. A home was unknown.

This prehistoric man, the same as man to-day, learned by experience. By the force of the tempest the interwoven branches are torn asunder, and the pendant rock loosened. Strange objects haunt the black hole in the side of the mountain. He desires a more permanent and secure habitation to protect himself from the elements and his fellow-creatures. As a result, a comfortable and secure abode was obtained. Man, being a social animal, as he advances in civilization, and his wants, which can only be satisfied by contact with his fellow-men, multiply, finds it to his advantage to congregate in communities, until, at the present day, the whole world is virtually one community, bound together by the arteries and veins of our great transportation lines and nerves of electric telegraph.

The intuitive knowledge of the babe of prehistoric times may be said to be equal to that of the present infant, but the rate of advancement of the latter is far superior to that of the former. The first had not the accumulated knowledge of past generations to aid him, but advanced solely by his own experience, while the modern infant has the gathered experience of all previous generations at his command. From this we can see that each succeeding generation possesses greater facilities for advancement than the preceding, and the present condition of society evidences that man has availed himself of these advantages.

Education to-day has so many branches nobody tries to be proficient in all, but specialization and a clear knowledge of some one subject should be the motto of every man who would be successful. The growth of this idea in favor of specialization is shown by the increasing number of institutions for work in special lines. Our institution has for its special work the study of the human body, its ailments and the ways of alleviating them.

By the numerous experiments with medicines and a thorough study of physiology, the mode of alleviating human suffering has been most wonderfully changed. We have learned that after an injury the general tendency of the body is restorative. Should the disease or injury overcome the restorative tendency, the science of medicine, judiciously applied, comes to assist nature. This is the aim of medicine to-day. How different from that of the past. An educated doctor studies his cases, and, taking into consideration the indications given him by nature, comes to her assistance in such a manner as to aid in combatting the trouble.

In this great science, with all its complications, we have constantly before us the great question which concerns every living thing. The dying man gasps for one more breath of that precious life which links him to this world of friends and environments. What is it? The investigations by chemical analysis and the microscope only reveal to us the elements of the body united into cells, these cells possessing a power of metabolic equilibrium which is unfathomed. No one can demonstrate this power by chemical analysis, nor see it with a microscope. Yet without it there is no growth, no development. In whatever direction you may extend your investigation, you will find some unseen, influencing power.

There are various lines of development in which there have been very marked changes. It is well said that this is an age of advancement. Generations after generations have lived and passed away, leaving behind them for those succeeding something they have acquired. Kingdoms arise and fall, but in the history of each there is a lesson for those that follow. Man is born, lives a few years, passes away and is seen no more. But from each man some lessons may be learned, something which elevates and influences to a higher development. The elevating influences of the world are greater than the degrading. Step by step the ladder is climbed. Development is inevitable, always influenced by the unseen power.

FELLOW CLASSMEN OF MEDICAL AND DENTAL DEPARTMENT—When I accepted the honor—and I consider it a great honor—you have conferred upon me, I little realized it. There is an old saying that we never miss the water until the well

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runs dry, and it is equally true that we never appreciate our friends until they are no longer with us. We now begin to realize that we who have struggled side by side to acquire what we have and enjoyed each other's companionship are to be separated, perhaps never to meet again. Each will undoubtedly follow the same course in life, but under widely different circumstances.

Classmen, for most of us this is a critical time in our lives. We are about to start for life in an occupation. We should, I think, form a distinct plan for life, including duties to fulfill, virtues to practice, powers to develop, knowledge to attain, and grace to acquire. Circumstances may change our plan or experience may show that it requires modification. In changing our plan and developing our powers we may forget some of our classmen. But not one of us will ever forget our Alma Mater. Each one of us will enjoy the review of our time spent in the college with the greatest of pleasure, not only with our own classmen, but with the junior classes as well. I would not do justice to the class of '96 if I did not say in their behalf that they duly appreciate the fraternal respect always shown them by the junior classes.

Gentlemen of the Faculty and Trustees: It is with reverent step that I approach you, gentlemen, on behalf of the class. Had I time I should address each of you separately, for there is not one in the class who does not feel deeply indebted to each of you. No one can say he has not received special attention, and the class is very grateful for the prompt and decisive action taken by you when it has applied for rights and duties. What I can say to you will be little noted nor long remembered, but what you have done for us can never be forgotten. In closing I can only say that, while we can never fully repay your sacrifice for us, still it will always be appreciated and never be forgoeten by any graduate of the Milwaukee Medical College or School of Dentistry.

THERE is a condititon in acute bronchitis characterized by sharp, short, dry, hacking cough, in which nitrate of potassium in one-grain doses, thoroughly titurated with sugar of milk, and given every two hours, will produce great relief. —*Medical Summary.*

Translations.

Treatment of Chilblains.

Is general and local to be successful.

General treatment will consist in administration of cod liver oil and syrup ferri iodidi.

Local treatment must differ according as they are ulcerated, or not ulcerated or dry.

Intense forms of non-ulcerated chilblains. In the beginning of their formative stage, which may be from four to twelve days, and as long as the tegument will be red, shining, tense, moist applications are best; envelop the fingers or toes, or hands or feet in moist aseptic compresses, steeped in a decoction of walnut leaves (10 to 15 grammes per litre = 2½ to 4 drams per quart of water); cover the whole with rubber cloth or other impervious material.

When the irritation in the affected parts has calmed down, replace the moist dressings by one of the following preparations:

Boric Acid,	1 gramme.
Tannin,	30 centigrammes.
Vaseline,	10 grammes.

M. carefully.

Cover the affected parts with this pomade; or thoroughly powder or dust the parts with

Starch,	10 grammes.
Lycopodium,	20 "
Tannin,	30 centigrammes.

M. ft. pulv.

To keep the powder in place on the leséd surfaces it is well to order gloves, mittens or stockings—worn constantly.

For the light forms, applications of the walnut leaves docoction, night and morning; and during the day use one of the two preceding preparations.

Ulcerated chilblains. There is no harm in dressing them as ordinary wounds:

1st. Wash carefully with liquor Van Swieten.

2d. Apply, then, compresses soaked in the same solution, diluted by half with water.

A very good way consists in touching the ulcerated points with tr. iodin or with camphorated naphthol; then over all apply fine and aseptic tarlatan covered with boric-vaseline, or glycerole of starch. When the wounds "bud" freely, touch them lightly now and then with lunar caustic.

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In case of failure, make use of a *plaster*, either the *red plaster* of vidal, or plaster of zinc oxid.

It is hardly necessary to say these ulcerated chilblains *must* be managed according to the rigid rules of antisepsis, applicable in ordinary wounds, for the purpose of preventing any and all kinds of complications.—*L'Independence Medicale*, 1896, pp. 3 and 4. H. P. W.

Foreign Body in the Tongue.

M. Derville communicated a case of foreign body in the tongue, to the *Societe des Sciences Medicales de Lille*. The patient was ignorant of its presence; it is interesting from the fact of its way of penetration. The one injured, a man 55 years of age, had been examined by several physicians who had diagnosticated a lingual gomma, the tumor presented the characteristics of a gumma. On palpating the tongue M. Derville saw a thin stream of yellowish serous fluid oozing from the dorsal surface of the tongue, which led him to probe the track; passing in between one and two centimeters the probe struck against a hard substance which was extracted after incision of the tongue.

This piece of foreign body was a bit of amber 2½ centimeters long by 1 in breadth, whose presence was explained by the following story:

Six months before the patient, being somewhat under the influence of drink, in a row received a blow from a fist into his face, while he had his pipe in his mouth. Immediately, without feeling any severe pain, he spat a little blood and noticed that the end of his pipe was broken; the amber end-piece was missing, and could not be found in spite of all searching for it. During the night the tongue swelled considerably without being very painful. This swelling partly subsided after using gargles, but since that time the tongue had not at any time resumed its normal, previous volume. —*Le Bulletin Medical*, 1896, 3, page 16. W.

Collateral Hemiplegia.

[Here and there in medical literature are reported cases in which the injury to the brain is found, *post-mortem*, on the same side which is hemiplegic, whilst during life trepanation on the opposite side, showed only normal conditions. Subdural effusions of blood in these cases often cause the patient to succumb, because, unfortunately, the effusion was not found on the side opposite the paralysis; and trepanning, when negative on the side opposite the paralysis should be performed in the patient's behalf on the other side of the head. Ledderhose has collected 48 cases of "collateral hemiphlegia" consecutive to focal lesions in the brain, and gives in detail a very striking example.—TRANSLATOR.]

A man 38 years of age, who, in the course of a fight, is thrown on the ground and kicked on the head several times. For some time he remained unconscious, then when able to return home he notices that blood flows from his ears. The next day, however, he is able to follow his occupation, as also several days after; only he is depressed, apathetic, then, on the eleventh day after the accident, he becomes comatose. On examination is verified, besides the comatose condition, a right hemiplegia and a paralysis of the face of the same side. Trepanation on the left side; the dura-mater is found healthy, neither blood nor clots, and the wound is closed. Twenty-four hours after operation the patient died, and, at the autopsy, a hematoma is found under the dura-mater of the right side, compressing the anterior half of the right hemisphere.

In this case, consequently, a lesion of the right hemisphere, instead of provoking a left hemiplegia, gave rise to a collateral hemiplegia, to a hemiplegia of the right side. If, instead of trepaning the left side, the right side had been trepanned, the patient might have been saved, for, aside of the hematoma the brain presented no other lesions.—*Arch. f. Klin. Chirurgie.*, 1895, 41, p. 361; *La Tribune Medicale*, 1896, 3, p. 44, H. P. W.

Subcutaneous Rupture of the Biceps.

M. A. Reem, presented a carpenter, 53 years of age, who, six weeks before, had ruptured the short head of the biceps. He pulled hard on a heavy joist which, suddenly fell on his forearm in forced flexion. On the arm at the side of flexion was perceived a very prominent tumor large as an apple; this was the retracted muscular body of the biceps. This tumor is limited by a sharp, transverse depression; the tendon cannot he clearly distinguished.

It is remakable that notwithstanding this injury the patient was enabled to continue his work during the four weeks following the accident.—*Le Bulletin Medicale*, 1896, 5, p. 58. W.

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MILWAUKEE MEDICAL JOURNAL.

A Monthly Journal of Medicine and Surgery.

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Meeting of the Wisconsin State Medical Society.

The Wisconsin State Medical Society meets in Madison June 3d, 4th and 5th. This being the semi-centennial anniversary, no pains should be spared to make the meeting the most successful of its history. To do this it is necessary that every one should come and bring his friends and neighbors with him; and that every one who has a paper to prepare should prepare it to the very best of his ability, and whoever accepts the responsibility of opening a discussion accept it in good faith, be there when his name is called and be prepared to give us his best thought on the subject. Unless there are circumstances over which he has no control, no one is justified in staying away or shirking his part once he allows his name to appear on the programme. He has then entered into a contract with the society, and is in duty bound to carry it out. It never redounds to one's credit to shirk a contract. Another way to make the meeting a success is to shorten up the business meeting. Too much time is consumed over matters that are not scientific, that are political. Let the man with obstructionist tendency suppress his tendency or say what he has to say quickly and well, and he will give relief to his hearers. Let everything be done in the interest of the society, without reference to private ambitions.

The programme, while unique in its way, promises to be one of interest and practical value. Personal and public hygiene and preventive medicine offer a large field for the medical writer, although devoid of opportunity for personal aggrandizement. The man who writes on these subjects must necessarily keep his own achievements in the background, for the public weal is of such vast importance as to overshadow our own little work. So instead of reporting our X-tieth laparotomy, our cases of appendicitis, tape-worms, monstrosities, colics and the like, take off our coats, figuratively speaking, and produce something that the laity can understand, lay hold of and apply to their practical advantage. We may not individually advertise ourselves so thoroughly, but the result will be such that our children and their children "will rise up and call us blessed."

The chairmen of the sections to whom you can send the title of your paper are as follows:

Hygiene of Practice—Dr. E. Wells Kellogg, Milwaukee.

Hygiene of Surgery—Dr. C. W. Oviatt, Oshkosh.

Hygiene of Obstetrics—Dr. E. S. Hayes, Eau Claire.

Hygiene of the Alimentary Canal—Dr. W. B. Hill, Milwaukee.

Hygiene of Air Passages—Dr. A. B. Farnham, Milwaukee.

Hygiene of Childhood—Dr. C. M. Gould, West Superior.

Hygiene of Public Schools—Dr. J. R. Barnett, Neenah.

Hygiene of Public Conveyances—Dr. J. F. Pritchard, Manitowoc.

Hygiene of the Physician Himself—Dr. H. B. Tanner, Kaukauna.

General Hygiene—Dr. Walter Kempster, Milwaukee.

Quarantine—Dr. W. H. Washburn, Milwaukee.

Disinfection and Vital Statistics—Dr. U. O. B. Wingate, Milwaukee.

Water Supply and Drainage—Dr. H. Reineking, Sheboygan.

Sewage Disposal—Dr. J. A. Mack, Madison.

So get your paper ready, make your plans for a few days' outing, take your wives, and remember, aside from its treasures of art and literature, associated with our great university, Madison is one of the fairest spots in our fair state.

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Annual Meeting of the Northwestern Medical Association of Wisconsin.

The meeting of the Northwestern Medical Association, held at Stevens Point on the 14th inst., was fairly well attended, and amply repaid one for the time taken in attending it. Dr. Daniels, the presiding officer, was in the chair promptly. Dr. Zeit, the amiable secretary, read the minutes of the last meeting, which were approved. New members elected were Drs. MacGregor, of Nekoosa, and Dr. Dane Perry; Dr. Neilson, on nomination of Dr. Haugen, was elected honorary member. After some routine business had been disposed of, Milwaukee was selected as place of next meeting (the meeting to be held on the second Tuesday in July); Medford, Wausau and Stevens Point for the October, January and April meetings respectively.

Dr. Phillips, a gentleman of well nigh fifty years' practice, and who still looks strong and rugged enough for several years more of work, detailed his treatment for carbuncle, comparing it with that of excision as advocated by surgeons. He uses caustic potash, inserting two or three pieces of the stick split in halves and of about half an inch in length into the opening of the carbuncle. In about two hours all pain ceases, the mass soon sloughs out, there is no further spreading, and the lesion can be treated as a simple ulcer. He related several cases in which the treatment was most successful. Dr. Rothmann, of Wittenberg, brought a child with a foreign body in the ear. Under chloroform Dr. Alcorn removed a small snail-shell which was quite firmly impacted in the auditory canal. Dr. Daniels exhibited a case for diagnosis. A young man who had been a log driver some fourteen years ago, after exposure suddenly lost the use of his legs. He has not been able to use them since, and great atrophy resulted. Anterior polio-myelitis was diagnosed; no treatment advised. Dr. Sauerherring read an instructive paper on some cases in practice and exhibited a number of interesting photographs. Dr. Rothmann, of Wittenberg, gave an account of his experience with diphtheria in the Orphanage and his treatment. Four cases out of some seventy-five were fatal. His treatment consisted of peroxide of hydrogen locally and internally; quinine and good feeding. One case of a girl was especially interesting from the extreme degree of paralysis present. The treatment was continued by Dr. Sauerherring, in whose hospital at Wausau she was placed. He said that she could not swallow; was intensely tympanitic as a result of paralysis of intestines; fluid would run down her œsosphagus by force of gravity if she was in the proper position, but not otherwise; her limbs were paralyzed, and she was altogether in a very deplorable condition. By feeding her through a stomach tube, flushing her bowels, massage and electricity, she was now able to feed herself, and was on the highway to recovery. Considerable discussion on the subject of antitoxin followed. As usual, there were those for and against its use, the majority believing that the best results were to be obtained by using antiseptic treatment in connection with the antitoxin.

Dr. Neilson read a paper on the therapeutics of chronic endocarditis. Dr. Southwick took issue with the paper in regard to the use of digitalis, claiming better results in strengthening the heart when it begins to fail by the use of laudanum, belladonna and nux vomica, according to Dr. Wm. Porter's method. Dr. Zeit and Dr. Doege also took part in the discussion.

The officers for the ensuing year are Dr. Sauerherring, President; Dr. Bostwick, Vice-President, and Dr. Zeit, Secretary. The profession in Milwaukee will no doubt welcome the society, and do their best to make the members' stay in our midst pleasant and profitable. The society has now eighty members, representing the best medical thought and progress of Northwestern Wisconsin. Milwaukeeans will well need to look to their laurels in debate with these wide-awake, practical men of our great state, for "they are all up and coming," and fully abreast of the times. This is as it should be, and these quarterly meetings do much to brighten the minds and increase the store of knowledge; they are a powerful factor for good.

Brainard Medical Society.

The Brainard Medical Society met as usual at the Milwaukee Hospital on the 14th inst. Owing to the absence of the committee who had the subject "Serum-therapy" for discussion, there was

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an absence of papers, which is to be deplored, and all the more so as many of the members are residents of our own city. An informal discussion, however, was held on the subject. Dr. Mackie had a clinic in the morning, operating on a case of tubercular sternum, removing a considerable portion of it, opening up the anterior mediastinum. The good sisters gave their usual dinner. Under the soothing influence of a good meal and cigars the disappointment in not having papers was forgotten, and a good time held after all, and the worthy secretary had the relief of having no papers to guard.

COMMUNICATION.

The Wisconsin State Medical Society, March, 1896.

To the Editor of the Milwaukee Medical Journal:

The annual meeting of the Wisconsin State Society is announced. A year ago I made a protest against the society holding its meeting in the most far off corner of the state, the most distant from any large center of the state, endowed with convenient and rapid railroad transit. I was informed then that it was necessary to have the medical meeting held away up on Lake Superior for the purpose of allowing the doctors a chance to travel for their health and recreation. I thought at the time that most of the doctors of Wisconsin were entirely capable of choosing their own time and place to go to a sanatarium. After a year's medical thoughtfulness, I yet fail to see why the Wisconsin doctors should spend large railroad fees and several days and nights of extra time to sojourn away off to a distant corner of the state to deliberate.

I had supposed that the best interests of the society and medical science was enhanced by holding meetings in the most central location with the best possible facilities for convenient and rapid railway transit so that the attending physicians could save time and money.

Now, comes the Wisconsin Medical meeting of 1896, with another hobby. This time it is a limited symposium. A splendid location (Madison) has been chosen, but lo, all members who participate must be specialists. In short, all authors of papers must be specialists in knowing "*Preventive Medicine*," whatever kind of drug that may be. No surgeon dare appear with his scalpel, no fellow may show his specimens of microscopic research, no gynæcologist will be allowed to speak of sweeping removal of organs unless it be to prevent something, no oculist will speak of cataracts, nor aurist of drum-heads; only preventive medicine will be munched and munched. Mr. Editor, the way I found out all this was by sending to the secretary a paper on the peritoneum—a sac on whose properties I have been investigating half a dozen years. The following explains itself:

"WISCONSIN STATE MEDICAL SOCIETY,
CHARLES S. SHELDON, M. D., *Sec'y.*

MADISON, WIS., March 6, '96.

DEAR DR. ROBINSON—Yours at hand. We contemplate this year a programme devoted entirely to "*Preventive Medicine*" in all its aspects and do not know whether the Programme Committee expects to admit anything outside of that subject. I have referred your letter to Dr. Wm. Mackie, of Milwaukee, Chairman, Programme Committee. Would say, that personally, I should be most willing and glad to give you a place and it may be that exceptions will be made by the committee. I wish you would write Dr. Mackie.

Yours most cordially,
CHARLES S. SHELDON, *Sec'y.*

You can note by the tone of the secretary's letter that his sentiments and my safety are in his hands. But you see how my "peritoneum" hopes were blasted into traceless oblivion by the following letter, which by the way, broadens out the subject of "preventive medicine" by adding "hygiene" to it, whatever that may mean, during the meeting:

"DR. WILLIAM MACKIE,
107 WISCONSIN ST.
RESIDENCE, 1103 Grand Avenue.

MILWAUKEE, March 12, 1896.

DR. B. ROBINSON, *Chicago:*

DEAR DOCTOR—Your letter to Dr. Sheldon regarding paper on "Peritoneum," for Wisconsin State Medical Society meeting, has been referred to me for reply. As you are aware from the published transactions it has been decided that the programme this year will include only papers on preventive medicine and hygiene, hence the subject you propose is ineligible. If you will

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prepare one within the scope of the proposed progamme, let me know and it will be assigned its proper place.

Yours truly,

WILLIAM MACKIE,

Chairman Programme Com."

I am recently informed by a member of the society that this meeting is to put in a popular form "preventive medicine" and distribute it among the people. This may stimulate the authors of "preventive medicine" papers to research more vigorously the musty pages of Pfleuger, of Draper, of Parks, so that the people may be "popularly impressed" but it may strain the symposium. In this medical meeting (limited) I hope they will not suggest, as some of our Eastern brothers do, to arrest a patient because he has consumption and spits, nor be accused of what the orator's cousin was. It would seem that when a society meets but once a year that it should not be narrowed down to "preventive" matters, for little enough original research is presented in its unlimited meetings.

If the symposium had not had its day, this meeting ought to give it the death-rattle, for such a hobby strikes a blow at original research. Think of it, from the "Superior" meeting onward for two years, no original research will be presented to the Wisconsin Medical Society. What is the Wisconsin Medical Society for? How many times during the ten years of my membership have I heard the scathing remark when the surgeons monopolized the meeting that it was for the selfish purpose of a select few surgeons?

So far as my knowledge extends in Chicago, preventive medicine is a delusion and a snare and a residence in Wisconsin taught me no different lesson.

It is an injustice to compel every member who may wish to present a paper to grind out ideas on preventive medicine. Of course, it may be one method of proving how many authors read the same book. Preventive medicine has got into politics and medical meetings should never restrict itself to matter in political strife. I know of no objection to a "section" of preventive medicine, but to monoplize the whole meeting with the uncertain stuff, preventive medicine, is to mar the landmark of fifty years existence. The object of the state medical meeting, ought to be the greatest good for the greatest number. To confine writers to preventive medicine which constitutes but little, if any, of their practical work is, to say the least, riding a hobby. It is constricting the labors from broader fields and more enduring results. It is unjust to the physicians who live in smaller towns, who sojourn to the meeting to listen to modern views on the wide fields of surgery, gynæcology, diagnoses and methods of treatment. The Wisconsin Medical Society is not a special medical society, and should never be forced into special uses to the monopoly of a few and the exclusion of the many. The object of the society is for general medical labor and it is presumptuous for individuals to force the society from its original intention, without a general vote. It is no more presumptuous, with the present meaning of "preventive medicine," than it would be to announce a symposium on the eye. What a howl would arise if a symposium on gynæcology was announced!!! We protest against the State Medical Society being made a tool as to *locality* or limited *symposia*.

Chicago. BYRON ROBINSON.

Virchow's Opinion of Antitoxin.

At the Children's Hospital in Berlin, at the last Christmas festival, the Empress Frederick being present, Virchow had occasion to read a short paper detailing their experience in the use of diphtheria antitoxin. He said that in that institution from April to November, 1895, 305 out of 335 cases of diphtheria had been cured and that the mortality from diphtheria in the hospital which formerly was 43 per cent. had gone down to 9½ per cent.

A SPECIFIC remedy in the treatment of afterpains without interfering with the contraction of the womb, is an infusion of white cohosh.

IN acute nephritis, with anasarca, give full doses of a good preparation of the elder (sambucus nigra). The anasarca will be quickly relieved.

FOR feeble vision due to insolation, strychnine sulphate, one-fiftieth grain injected daily into either temple, has proved rapidly curative.

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Book Review.

PREVENTION and Treatment of Cholera, by Elmer Lee, A. M., M. D., Ph. B., Chicago, Ill.

THE Treatment of Typhoid Fever, by Elmer Lee, A. M.. M. D., Ph. B., Chicago, Ill.

NOTES and Comments, by Orpheus Everts, M. D., Cincinnati, Ohio.

INFANTILE Intussusception; a study of one hundred and three cases treated either by intestinal distention or laparotomy, and a report of two cases, by Frederick Holmes Wiggin, M. D., New York, N. Y.

CREOSOTE Carbonate in treatment of pulmonary tuberculosis, by Wm. H. Dukeman, M. D., Los Angeles, Cal.

UROTROPIN, by J. Alexander, M. D., Louisville, Ky.

A NEW Form of Antiseptic Treatment of Wounds, by C. L. Schleich, M. D., Berlin.

DISEASES of the Blood, by Dr. Alexandra Rixa.

AN Improved Method of Diagnosticating Diabetes from a drop of Blood, by S. Bremer, M. D., St. Louis, Mo.

"ELECTRICITY in Electro-Therapeutics," by Edwin J. Houston, Ph. D., and A. E. Kennelly, Sc. D., two electricians holding high rank in the electrical profession. Prof. Houston has served two terms as president of the American Institute of Electrical Engineers, and is a co-inventor of the well-known Thomson-Houston system of electric lighting. He has given special attention to electricity as applied in electro-therapeutics, in which department he is a lecturer in medical courses. Mr. Kennelly has made many contributions to the higher branches of electrical science, and at the same time is widely known from his connection with its practical applications. Their work meets in a high degree the requirements of physicians who desire to read a treatise on the fundamental electrical principles of electro-therapeutics, which is at once authoritative and expressed in simple language, requiring no special training in electrical science to understand. The book contains 412 pages and 128 illustrations, and the price is $1.00. It is published by the W. J. Johnston Company, 253 Broadway, New York.

News and Miscellany.

Section on Ophthalmology, College of Physicians of Philadelphia.

A Stated Meeting of the Section on Ophthalmology was held in the Lower Hall of the College of Physicians on the 21st of January, 1896, Dr. Wm. F. Norris, Chairman, presiding. Present: Drs. Friebis, Hansell, Harlan, Norris, Oliver, Randall, Ring, Risley, de Schweinitz, Thompson, Zentmayer and Zimmerman, Fellows of the College; with Drs. Adams, Brick, Bromley, Cassel, Chance, Krauss, Lamon, McGuigan, Posey, Shoemaker Stevens, Sweet, Veasey and Zeigler as guests

Dr. George Friebis presented a case of Partial Rupture of the Eyeball followed by recovery, with restoration of vision to almost full acuity, occurring in a young man eighteen years old. The right eyeball sustained a large break through its corneo-scleral junction, extending beyond the equator, by the entrance of a piece of heated iron. The wound was sutured and vision gradually rose to almost normal. When seen five years later, vision still remained the same.

Dr. George E. de Schweinitz made a brief communication upon restoration of the Upper Lid Border by Hotz's Method, and showed two cases upon whom he had recently performed the operation.

Dr. Howard F. Hansell showed a two-year-old child of Russian parentage who exhibited a well-marked clinical picture of Retinal Glioma in the left eye. It now could be readily perceived by ordinary inspection without the use of oblique illumination. Dr. Friebis gave a short account of a similar case in which both retinæ were affected. In this instance there was a family history of an older child who was similarly affected and who soon died after enucleation had been refused the attending ophthalmic surgeon. Dr. William Thompson, stated that it is a very interesting fact that the present case had not as yet presented any signs of increase of intraocular tension, thus rendering the diagnosis not absolutely certain.

Dr. George C. Harlan described a new operation intended for the preparation of an orbit for the insertion of an artificial eye. The procedure consisted in an attempt to form an artificial sulcus by the passage of a stout lead wire through the base of a number of cicatricial bands and adhesions which connected the lids with the

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bottom of the cavity. The wire was passed around the bottom of the cavity, its ends were twisted together at the external canthus, and it was to be allowed to remain in place until the tissue lining the passage that it formed had completely cicatrized. It was then to be removed by incising the cicatricial tissue in front of it, and an artificial eye was to be inserted, the margins of which should rest in the position that the wire had occupied. The patient was shown several weeks after the insertion of the wire, which had occasioned scarcely any irritation, and the final result will be reported at some future meeting.

Dr. Charles A. Oliver, exhibited a patient from whom five years previously he removed a piece of steel from the vitreous chamber by means of an electro-magnet. The operation, which consisted in passing a straight electrode, carrying a current of thirty-five cell strength, through an incision made through the sclera between the insertion of the external rectus and the inferior rectus muscles, resulted in the extraction of a small piece of steel, which was followed by a rapid cessation of all inflammatory symptoms. The patient was lost sight of until about a month before the meeting of the Section. When shown at the meeting, the eye was perfectly quiet.

Dr. S. Lewis Ziegler showed a case in which a piece of steel in the vitreous was also removed by an electro-magnet. The case presented almost identical symptoms as the one reported by Dr. Oliver; and although the same length of time had not elapsed since the operation, the eye had also remained perfectly quiet and comfortable.

Dr. de Schweinitz gave the brief notes of a case of laceration of the left eyeball caused by a piece of steel which had been broken from a cold chisel. The eye was partially collapsed, and vision had sunken to the ability to see to count fingers. In spite of the fact that upon account of extravasated blood no foreign body could be detected, the patient was etherized and the flat point of a Hirschberg electro-magnet (the current being obtained from a three-celled cautery battery) was introduced three times within the eye and moved in all directions, but was withdrawn without securing the foreign body. Under careful treatment, the eyeball had assumed its proper shape and regained almost it normal tension in three days' time. In two weeks, vision had risen to 6-9, and the only ophthalmoscopic lesion visible, was a large triangular white patch on the temporal side, indicating the point of rupture. Six weeks later, vision had fallen to 6-15, and the entire vitreous was filled with fine points of opacities.

Dr. Hansell cited the instance of a case that he had seen about one month previously. Eleven days before being seen, the patient, a blacksmith, had been struck in the outer and lower scleral quadrant with a piece of steel. The point of an electro-magnet was carried into the eye through the wound of entrance of the foreign body, but nothing could be found. Panophthalmitis soon set in, the eye was removed, and a piece of steel was found imbedded in a mass of pus situated down and in from the crystalline lens.

Dr. de Schweinitz described three cases of macular hemorrhage, and presented water-color sketches of the same made by Miss Margaretta Washington, of this city. The first was one of secondary glaucoma. One month after the performance of a smooth iridectomy, which at once relieved the pain and inflammatory symptoms, a small, absolute central scotoma appeared. The ophthalmoscope revealed that this has been caused by a dark, venous-colored hemorrhage, exactly replacing the dark area of the macula. Four weeks later, the hemorrhage disappeared, leaving but a faint discoloration to mark its former position, vision returning to its previous sharpness. The second case was seen in a sixty-six-year-old woman, the subject of chronic cardiac disease. Here a less dark-colored, similarly placed hemorrhage, containing a few white dots in its center, could be seen ophthalmoscopically in the left eye. There was an absolute central scotoma. The third case was seen in a sixty-three-year-old syphilitic. There was a history of a gummatous iridocyclitis of the right eye necessitating enucleation and a parenchymatous iritis in the left eye. In April of 1895, Dr. Oliver discovered a series of hemorrhagic extravasations in the retina, with an unusually large one seated just below the macular region. In six months' time, Dr. de Schweinitz found that these were absorbed, leaving a greenish-white area with a dirty-gray circumference, from the temporal edge of which a white line extended and terminated in some yellowish spots.

Dr. Oliver exhibited water-color sketches of the ophthalmoscopic appearances of the third case during the hemorrhagic and the earlierdegenerative stages, made for him by Miss Washington.

Dr. S. D. Risley gave the brief notes of a thirteen-year-old apparently healthy child, who presented a dense red macular hemorrhage in the left eye. In this case there was a central scotoma present.

The Section then went into Executive Session. Upon motion, adjourned.

CHARLES A. OLIVER,
Clerk of Section.

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Publishers' Column.

Cholera Infantum.

A complaint peculiar to infantile life, too well known to need further description. I have been requested to give my treatment for this scourge of the nursery. I will not stop to give its pathology or morbid anatomy. What the profession needs is the simplest and mildest treatment that will relieve the little sufferers in the shortest time; one of which, at least, I hope to give.

The first five years I practiced, I treated these cases as I had learned to from the books and lectures. When my little patients died I wondered why they did not get well, for I knew my treatment was orthodox. When a poor, little emaciated one lingered through the summer into autumn, and finally got well, I knew it was despite both disease and treatment.

Among my patients was our own little Ruby, a bright, sweet darling of fourteen months, stricken July 2d. I exhausted the remedies laid down in the books and those in my memoranda taken down at college, then called to my assistance the ablest physicians available. They said I had done all they could do, and offered nothing new. One, a diplomat, said he had obtained the best results, in such cases, from the use of Mrs. Winslow's Soothing Syrup, advised me to try it, and went away. In my despair, I cried out, "Is this all? Is this the end of all hope of assistance, in this hour of my great distress?"

July 28th she ceased to be. We laid her away, and might well have written on her little monument, whose spire points heavenward, "Died early, because they knew not what to do."

Then I began to inquire of every doctor I met: What is your treatment for cholera infantum or summer complaint in children? They replied: Opium, morphine, laudanum, paregoric, Doveri, cinnamon, cloves, allspice, nutmeg, kino, blackberry-root tea, white oak bark, raspberry leaf—the whole catalogue of astringents—made into some form of powder, decoction or syrup. The same old, old treatment that has sent, and is still sending, multiplied thousands of lovely, innocent children to premature graves, that ought to be saved; and many of them would get well if they never saw a doctor, or rather, if a doctor never saw them. Hard words to say! but I have been over the battle-grounds; I have witnessed the last struggles; I have heard the weeping of mothers and friends, who anxiously watched for the last breath.

I have paid dearly for my knowledge. I am still in a position to look over the field, read the results, and know whereof I speak. I had tested the treatments laid down in the standard works, and those given me by my teachers, and found them disastrous failures. I had applied to professional gentlemen with whom I met, and some of them appeared to think they had about reached the top round, and, from them, learned nothing new under the sun. I was then, comparatively, a young man. I determined to pull out of the rut made by that old professional cart that went out from Philadelphia over one hundred years ago, and, if possible, blaze a way to the goal of my ambition, to relieve and save these little sufferers.

Under astringents, I found the inner coating of the stomach wrinkled and hard, like that of chicken's gizzard; the small intestines the same, with occasional short spaces distended with gas. No digestion, absorption or assimilation could take place under such conditions. (If you will cut down here after death, gentlemen, you will find, after using your puckering treatment, a similar condition.)

I began to think for myself: There is evidence of irritation here, manifest at both ends of the line. First, by the vomiting, and second, the diarrhœa. What, then, are the indications?

The answer is plain. First, control the irritation, and second, remove the cause. To control vomiting, one-eighth grain tablet of calomel every hour until four are taken. Follow with teaspoonful doses of castor oil, or pure olive oil, in which is mixed three to five drops of Battle & Co.'s Bromidia, every two hours, until it operates on bowels, and be sure that it *does operate, too.*

Then give every two or three hours from half to a teaspoonful, according to age and emergency, of the following:

℞	Aquæ Calcis.....	1 ounce.
	Mistura Cretæ.....	1 ounce.
	Syrup Acaciæ.....	1 ounce.
	Bromidia.....	½ ounce.
	Bismuth Sub Nit.....	1½ drachms.

M. Sig.: Shake well before using.

Repeat the oil every morning *till it operates*, and follow it as before. If the Bromidia in this formula is not sufficient to insure quiet and sleep, I give enough of it in addition till it does, always properly diluted. In extreme bad cases, with

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"brain symptoms," I depend entirely on Bromidia, and it has never failed me. I have given it in half-teaspoonful doses every hour till the desired effect, with no unpleasant results.

Observe proper rules of feeding and bathing and the little patient is usually all right in a few days. Since I have adopted and followed this course, now about twenty-five years, I have not lost a case of cholera infantum or summer diarrhœa, and my records will show that I have treated, probably, as many as any one in the same section of country.

I want to say here, that I have saved the lives of more children, of all ages, with Bromidia, than any other remedy I have ever used, and I have used it since it was first introduced. I would no more think of going among the little ones without a bottle of it than I would of going among the "Haw-eaters" of the Missouri Valley, without a bottle of quinine. I know how many feel from what they write about so-called proprietary remedies, but "what I have written, I have written." "The proof of the pudding is in chewing the string;" chew the string, gentlemen, and then tell us what you know.

When doctors learn that medicines never cure any disease, but may only remove the cause, that the system may restore itself, then there will be a great revolution in our medical armamentarium, and the manner of using, to obtain the desired result. J. M. DUNCAN, M. D.

—Kansas City, Mo., Medical Brief, September, 1895.

Illinois Central Hospital for the Insane.

I have repeatedly prescribed antikamnia for various neuroses with good effect. Recently prescribed it in a case of crampous enteritis, patient adult, highly nervous, and during continuance of paroxysms, and preceding it, is nervous and hypochondriacal, suffering intense pain. The case is one of long standing, and one where opium was objectionable, because of the tendency toward forming opium habit. However, opium has been used, but the effect of antikamnia has been more magical, more persistent, and followed by no digestive disturbance, as has been the case when opium was used.

My directions have been to use antikamnia whenever a paroxysm occurs. Have also found it invincible in protracted neuralgia.

Jacksonville, Ill., September 19, 1891.

FRANK P. NORBURY, M. D.

The April Monist.

The April *Monist* opens with two articles on Roentgen's *x*-rays, by leading European scientists. Prof. Ernst Mach, of Vienna, describes a method of applying the new rays to an old device invented by him for taking stereoscopic or solid pictures of objects. The usual Roentgen pictures appear flat. By the suggested modification of this process they are made to appear in solid relief, like real objects. Professor Schubert, of Hamburg, writes at length on the *x*-rays, reviews in simple language their history, embracing the researches of Faraday, Geissler, Hittorf, Pluecker, Crookes, Lenard, and Roentgen, discusses the physical character of the rays, and lastly expounds the methods of work so successfully employed in the Hamburg State-Laboratory. Two beautiful actinograms accompany this article—one of a fish with shells in its intestines, and one of a lady's hand into which a needle had been run. No article has appeared on this subject more adapted to the popular comprehension.

Edward Atkinson, of Boston, practical financier and economist, writes a timely article on *The Philosophy of Money*. He has compressed a wonderful amount of logic and facts into the brief space of this essay, which should be read by all who are desirous of knowing the origin, history, and purport of our mediums of exchange. A well-known Polish philosopher, W. Lutoslawski, of Kazan University, Russia, makes his début to the American public in a striking and original article, *In Search of True Beings*, wherein he describes the philosophy of Polish individualism.

Remarkably fine is the contribution *From Animal to Man*, by Prof. Joseph Le Conte, of Berkeley, California. Prof. Joseph Le Conte is one of the foremost scientists and thinkers of America and his work has all the marks of high native talent and broad scientific culture. His article traces in a lucid manner the differences and common features of animal and human intelligence. The same spirit of philosophical culture pervades the article by Prof. J. Clark Murray on *The Dualistic Conception of Nature*, which depicts clearly and tersely the fortunes of dualistic notions both in philosophy and in religion. More profound and technical is the article *Nature and the Individual Mind*, by Prof. Kurd Lasswitz, a noted German philosopher, who treats in a masterly fashion one of the most abstruse and difficult of philosophical problems.

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The last article is a discussion of *The Nature of Pleasure and Pain*, by Dr. Paul Carus, with particular reference to the theory of the famous psychologist, Prof. Th. Ribot.

The usual Literary Correspondence from foreign countries and a rich selection of book notices, etc., conclude this number, which takes equal rank with the brilliant numbers that have preceded it and on which have appeared the names of Weismann, Ribot, Topinard, Lombrose, Romanes, and Lloyd Morgan. (Single copies, 50 cents; Annually, $2.00. The Open Court Publishing Co.: Chicago and London.)

Hydrozone in Purulent Otitis Media, a Report of a Case Supposed to Involve Inflammation of the Mastoid.

By Wm. Clarence Boteler, M. D., of Kansas City, Mo.

On November 4th, 1895, I was consulted at my office by Robert P——, aged 24 years; occupation, laborer in the Armour Packing Company. The patient complained that for about four weeks he had been suffering from intense pain in his left ear, making it impossible for him to sleep at night, or rest during the day. The pain was so severe that at times he apparently lost consciousness and it seemed to extend through his entire brain. Upon inspection, the man's face was found terribly deformed; an edematous swelling the size of one half of an ordinary loaf of baker's bread occupied the usual location of the ear and the surrounding muscles. The auricle of the ear was almost buried in edematous tissue; upon palpation, the part was found intensely tender, and deep pressure evoked expressions of excruciating pain. The integument and sub-cutaneous tissue were thoroughly infiltrated. Ichorous, fetid pus was slowly exuding from an almost imperceptible meatus. The patient expressed feelings of chilliness, showing a possible septic contamination of his system. Every indication and sign pointed to possible suppuration of the mastoid cells—tenderness upon pressure over the mastoid being very marked. Efforts to localize the tenderness, whether in external meatus or mastoid, for discriminating diagnosis, were unsatisfactory. I concluded to withhold a positive diagnosis as to whether the condition was purulent otitis media or suppurative inflammation of the mastoid, and used tentative treatment for a short while. I immediately placed the patient under heroic doses of elixir of the six iodides internally. After laborious effort I succeeded in separating the edematous tissue sufficient to admit the introduction of a small Eustachian catheter into the external meatus. Through this, with a small hard rubber syringe, I injected four times daily obout one-half an ounce of hydrozone, allowing it later to drain away, advising hot fomentations. The patient was confined to his bed and the best possible hygienic surroundings provided. In twenty-four hours after the treatment was commenced, the intensity of the odor, amount and character of the discharge had manifestly lessened, the swelling was reducing and the patient feeling better. The edema being lessened, the aperture was enlarged. I now recommended the injection of hydrozone through a catheter of larger calibre, every hour, requiring the head to be kept turned to the opposite side for ten minutes to allow the percolation of the hydrozone as deeply as possible into the middle ear, before reversing the position to allow drainage. We continued this treatment for a week, the man's recovery progressing with remarkable rapidity, his pain and the constitutional symptoms having disappeared about the third day. At the end of eight days the swelling had entirely disappeared, his features were again normal, and he expressed himself as perfectly well. An examination showed a circular perforation in the ear drum the size of a shot, proving that the case had been one of purulent otitis media, with septic contamination of the patient's system and infiltration of the surrounding cutaneous tissues. Small incisions were made at two different places to permit the exit of pus from the integument. The mastoid was found not involved. The rapidity with which the disease yielded after the introduction of hydrozone through the catheter into the middle ear impressed me with the wonderful value of the preparation; for, struggling with such cases during a practice of seventeen years, I have never seen its efficiency equalled by any medicinal or operative procedures. —*Medical Bulletin of Philadelphia.*

Parke, Davis & Co. have recently opened a branch house in New Orleans and another in Baltimore, to satisfy the rapidly augmenting demand for their pharmaceutical preparations. Their '96 price list, now being distributed, is another indication of the incredible vastness of this institution, comprising twenty-nine distinct lines of preparations and over six thousand different products.

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This list, by the bye, is so exhaustive and convenient for reference—so admirably printed and cleverly arranged—that no physician should be without one, and we counsel our readers to write to Parke, Davis & Co. for a copy.

What is the secret of such an amazing growth? Those familiar with the history of Parke, Davis & Co. will answer: Scrupulous integrity, a boundless courtesy to medical men seeking pharmaceutical or therapeutic information, scientific methods and great "driving-force" in management—that kind of energy which never rests, which is never satisfied, to which the goal of yesterday becomes the starting-point of to-morrow.

Wonderful as are the past successes of this house, its future promises a still greater harvest of achievements.

The Ethics of Medicine From a Layman's Standpoint.

It is against the ethics of medicine to invent a patent medicine or surgical instrument. It is against the ethics of medicine to profit by the sweat of one's brow and the ideas of one's brain. The man who invents a surgical instrument must not profit by it any more than the idiot who sits and takes his ease and steals any ideas that a brainy, hard-working man conceives. If he does, it's against the ethics of medicine. If a man makes a discovery in medicine and saves a hopeless case he must not talk about it, nor must he let his friends know what he has succeeded in doing. If he does, he violates the ethics of medicine. But it is not against the ethics of medicine to perform malpractice. It is not against the ethics of medicine to know nothing about one's profession and to kill off patients by the hundred. A man who says that a compound fracture is a sprain, who diagnoses a fractured skull as a case of drunkenness, who performs laparotomy for a pain in the ear—such a man does not violate the ethics of medicine and may hope some day to become president of the County Medical Society.—*N. Y. Press.*

SHOULD this copy of the JOURNAL fall into the hands of any physician whose name does not already appear on our subscription list, we hope the character and contents of this number will prove a sufficient inducement for him to forward his subscription at once.

Selections.

Dysmenorrhœa.

BY G. C. CHAPMAN, M. D., BIRMINGHAM, ALA.

Read before the Jefferson County Medical Society, November 26, 1895.

In presenting a subject of such every day observation, I should perhaps make some explanation to this society, but when I say to you that 75,000 of the women of America are to-day victims of painful menstruation, and 75,000 more on the way, I have made sufficient explanation to a body of thoughtful coadjutors.

That dysmenorrhœa has been one of the great trials to the physician in the past, and will be to the physician in the future if the present mode of living continues, none will deny. The more we advance to the modern ideal of civilization, education and refinement the more tedious becomes the pathway of womankind; and the more often will the mantle of disappointed hopes be thrown around her. This being true, it behooves us, as a medical profession, to act with marked vigilance in her behalf in the future.

I think it hardly necessary in presenting this subject to go into minute details as to the numerous symptoms accompanying the conditions of the uterine canal, ovaries and tubes which may produce a dysmenorrhœa.

There is, no doubt, a certain sense of pelvic fullness and discomfort attending every menstruation, but as normal menstruation is not attended with any special pain, and menstrual period which is accompanied by pain, is called one with dysmenorrhœa. This pain varies greatly as to frequency, duration, time and severity.

Dysmenorrhœa may be local or constitutional in its origin, and for the better purpose of classifying and discussing, has been divided into the following varieties, viz.: Neuralgic, congestive or inflammatory, obstructive, membranous, and some authors claim ovarian. All these forms have symptoms more or less common, but are widely different in their essential morbid conditions; the ovarian, however, differs from the others more in location than in kind. The causes leading to dysmenorrhœa are as varied as the kinds, and we will often find a combination of all the kinds with all the causes. For example, we may have a patient where no special disease of the uterus or appendages may be detected; yet she will present all the symptoms of bearing

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down, backache, pain over the uterus and ovaries, with an extreme nervous condition, simulating hysteria, yet by careful physical exploration we discover no alteration in size, shape, position, consistency or vascularity of the pelvic organs or structures, leading to such unbalanced equilibrium, or, if any is observed and treatment given for the relief of the local cause, the dysmenorrhœa continued unabated, showing us that the nerves of the endometrium are in a state of hyperesthesia—that there is a neuralgia. This class of cases is most often seen in the young and unmarried; and they present a spectacle of pity, with constitutions run down, from defective hygiene or from over-work, either of mind or body, or both, or of forced education—the greatest curse of all the curses to the women of America to-day; for it transmits a dwarfed inheritance and adds a false stimulus to our modern artificial life, and I unhesitatingly announce to you to-night that I believe that the present pernicious system of female education in vogue in this country is by far the most prolific cause in the neuralgic form of dysmenorrhœa, for we all know that "too great assiduity in study in early youth concentrates the nerve energy on the brain and deprives the uterus and ovaries of their share at a time when these organs are undergoing an enormous amount of development and preparing for the important functions of womanhood and motherhood."

Let me illustrate, for a moment, what I mean. To-day girls are absolutely started to school before they can dress themselves. They are sent away in the early morning to sit in a miserably ventilated room from six to eight hours, with perhaps a few minutes' recess, when they hurriedly eat a cold lunch. At twelve years of age they are studying such a pile of books that their weight is enough to give them curvature of the spine to carry them—consisting of English, Latin, mathematics and a host of other things. With this burden of books she reaches home in the afternoon, tired and worn out; but no rest. She must go to her music and practice for two hours, or until she becomes so nervous that the notes fail to strike harmony and an observer would think she had chorea. Then supper is announced, after which she is required to make preparation for the following day's work; often being compelled to study as late as 10 or 11 o'clock to become at all familiar with her lessons; then, of course, she is too exhausted for sleep. It will be seen that this poor girl has been forced to do more brain work in a day than the blacksmith at his forge or the sculpter with his chisel. Every physician here to-night knows that this is no overdrawn picture, and that it is not right for a girl just verging upon menstruation—or one upon whom nature is making a desperate effort to maintain this function—to be confined in a school room for eight or ten hours daily.

There is cause for alarm, and it is no wonder to me that the women of America are so rapidly deteriorating physically and that the hospitals and infirmaries are being crowded with invalids. At the end of nine months of such work as I have described, I dare say that, if questioned, 75 per cent. of the girls who have reached the age of puberty would give a history of scant and painful menstruation. There would be a local neurosis; an expression of the nervous system in which there is an exalted sensibility to pain, showing itself by general hysterical phenomena, predisposed by an anæmic and chlorotic state of the blood.

Rheumatism and gout are direct and exciting causes of this form of dysmenorrhœa; and all habits of body and faulty methods of dress, especially constipation, and the wearing of tight corsets and heavy skirts from the waist, by enervating the nervous system and dislodging the pelvic organs from their normal position, indirectly lead to dysmenorrhœa.

Symptoms.—The symptoms can hardly be mistaken, if a careful physical examination and analysis of the local and general symptoms is made. Every possible kind of pain, as to time, duration and severity, may be experienced; often being felt at the very inception of the menstrual function, and, if not relieved, continuing with increased severity for years, until it becomes most agonizing and spasmodic and dreaded more and more each time, hardly giving enough intermission for recuperation. Or it may come on suddenly, after years of painless menstrual life, even after marriage. and assume such severity that it will often be associated with severe reflex headache—sometimes described as a hot, burning spot in the top of the head. This condition is usually accompanied with nausea and vomiting and general neuralgic pains through the entire body. Sometimes the other pelvic organs, through sympathy, may become involved, and there will be a frequent desire to empty the bladder and a heavy pressure in the rectum, leading

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to frequent efforts at evacuation of the bowels. This condition is sometimes interspersed with periods, of uncertain length, when little or no pain is experienced; especially is this the case after physical or mental recreation. The pain most generallly comes on or soon after the beginning of the flow and decreases as it subsides, though it is not always so manifested. The discharge is not characteristic in appearance, as it may be profuse, scanty or in clots, and there does not seem to be any relative bearing between the pain and the discharge; indeed the severity of the pain is often in inverse proportion to the quantity of the flow. As I have already stated, physical exploration generally fails to develop any morbid condition of the uterus and its appendages; however, *one* of the most common pathological lesions found in this variety is some congenital defect.

The congestive or inflammatory variety of dysmenorrhœa has a more distinct pathology than the neuralgic type, and is the result of any constitutional or local cause which promotes or perpetuates active or passive hyperemia of the uterus. When consulted for this trouble, upon thorough investigation, we usually find a chronic condition which has invaded both the uterine and parametric structures, presenting a red or swollen cervix and endometrium.

The symptoms are usually very marked, as the pain comes on a few days before the appearance of the flow and increases in severity until the discharge is established, after which time it is more or less mitigated.

The obstructive variety, of course, is where there is a retention of the menstrual secretion; and from the anatomical arrangement of the structures involved would theoretically lead us to believe that mechanical obstruction was the origin of a large majority of painful menstruations, but the modern search light of gynecological investigation has set aside popularized theories and planted firmly in their stead facts from clinical statistics, showing that other reasons than obstruction of the uterine canal do exist, and that these are not the only causes creating pain in menstruation. Of course congenital and acquired abnormities of the cervix are often found existing with a stenosis arising from inflammation of the tissues, the result of using caustics.

The diagnosis is based upon the symptoms presented and upon the degree of obstruction found existing.

In that type designated *membranous* dysmenorrhœa we have had a very limited experience. It is marked in its characteristics, and consists chiefly in casting off and expelling in shreds the superficial layer of the uterine mucous membranes, the debris expelled often being mistaken for products of conception. Some authors claim that it is in reality "the uterine lining membrane hypertrophied in all its structures as in pregnancy." Others claim "that its production is the result of some ovarian disease, and that it is a desquamation or exfoliation of the uterine mucous membrane." But to my mind the most rational conception presented is that of Klob, who says "that it is an exudation from endometritis." Experience has shown us that there is nearly always existing with it a violent form of endometritis, which, if relieved, also relieves the dysmenorrhœa.

The symptoms simulate in some degree those of the obstructive type, but the pains come on at the very beginning of the flow, and increase until the contents of the exudation have been expelled, after which the pain decreases, as the flow subsides.

To differentiate between this membrane and products of conception, or large blood-clots, or of diphtheritic exudations, often requires a careful physical and microscopical examination.

Ovarian.—In some patients no depreciated condition of the nervous system will be found to account for a habitual painful menstruation, and a careful exploration of the pelvis will fail to discover any disorder of the uterus. In such cases a conjoined manipulation of all the regions around the uterus will discover in the culde-sac of Douglas the ovaries, enlarged, congested, tender, and prolapsed, giving rise to excruciating pain upon pressure.

It is *this* anatomical lesion that is commonly termed chronic ovaritis, and gives rise to the painful menstruation of the ovarian type. It cannot be diagnosed by rational signs alone, but by both physical and rational signs it may be readily detected; however, the pain usually precedes the flow by several days and diminishes as it is established. The pain is of a dull, throbbing character and extends down the hips and thighs, and is accompanied by nervous manifestations and depressed spirits. It is probable that the pathological lesions of the ovary thus diseased, while in process of evolution, gives rise to congestion

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and nervous hyperesthesia in the uterus, which creates a disordered and painful menstruation.

To recapitulate. The *time* at which the pain occurs is of some diagnostic importance. If it comes on a day or two before the appearance of the flow, it is more likely to be due to some general disturbance of the circulation or nervous supply of the pelvic organs, especially the ovaries or uterus, and may be usually characterized as neuralgic or congestive dysmenorrhœa. If pain comes on with the flow, lasts for a day or two, and then ceases, it is usually due to some condition of the canal of the uterus, and is designated as the obstructive type. When the flow becomes profuse, shows a tendency to clot, and the efforts of the uterus to expel the clots are accompanied by severe cramp-like pains, this may be called the spasmodic form. The *character* of the *pain* is not always suggestive of the kind. Almost all kinds are accompanied by pain in the back and lower abdomen, and bearing down, and especially is this the case in the congestive. In the obstructive form the pain is usually very much more severe, and more concentrated in the body of the uterus, and is accompanied by reflex symptoms as nausea and vomiting. Indeed the agony is often intense, the patient being almost thrown into convulsions. The most common physical condition found on examination in these cases is anteflexion of the body, or neck, or back, or an extremely sensitive condition of the internal os, often due to an endocervicitis or an endometritis, and especially is this so in unmarried women who are in a low state of health.

Prognosis.—The prognosis is generally favorable; but depends largely upon the *kind*, upon the *duration*, and upon the readiness of the patient to carry out the treatment prescribed.

TREATMENT.

In the treatment of dysmenorrhœa there is a practical exemplification of the fact that the basic essential of all treatment is *diagnosis*. Having made this accurately as to the variety of the dysmenorrhœa, and as to the local pelvic condition of the uterus, ovaries and tubes, and of the endometric tissues, we are prepared to enter upon a rational plan of management of these troublesome cases.

The treatment may be divided into that which is most appropriate for the relief of the pain at the *time* of the flow, and that which is best suited for the interval between menstruation, and to *preventive* measures. Upon the latter, in my judgment, much depends for the safety of humanity in the future.

The *active* treatment, or that which is best used at the time of the flow, may be divided into local and constitutional, and consists of rest in bed, hot vaginal douches, and hot applications over the lower abdomen and to the extremities.

In the way of medicines, a great many remedies have been employed for the relief of the menstrual pain, but reference will here be made only to a few that have proved serviceable to me. In the neuralgic form, cimicifuga has proved very effective, together with the salicylates if the flow is scanty and of a rheumatic type. Five-grain doses of antikamnia in whisky, repeated every five minutes until twenty grains have been given, will nearly always bring relief. Capsules of apiol or aperline, given every two or three hours, in cases of anemic girls, where there is a scant flow preceded by pain, has rendered me great service. Viburnum prunifolium, I suppose, is more prescribed than any other one remedy, and, in conjunction with cimicifuga, has given very satisfactory results in my practice. But the remedy that has proven the greatest boon to my patients has been dioviburnia, given in tablespoonful doses four times daily, beginning four or five days preceding the expected attack, and, after the flow is established, every two or three hours. Of course there are cases in every physician's practice where nothing except a hypodermic of morphia gives relief, but it should always be with extreme trepidation that we administer morphine in these cases, for no condition of suffering to which humanity is heir is more propitiously adapted for establishing the opium habit, and every physician in his daily practice sees enough victims of direful omen thronging the land to make him shrink from the encounter.

The *treatment during* the *interval* is also divided into constitutional and local. The constitutional treatment consists in the correction of defective hygienic conditions, especially in diet, dress, exercise and mental exertion, and regularity in evacuating the bowels. If constipated, purgation with salines are demanded in the congestive type. Marriage is advised in some cases, especially of a neurotic type, but not in the congestive, obstructive and membranous. Almost all patients who have suffered any length of time with dysmenorrhœa have depreciated in vitality, and, of course, need tonics. Among those which

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have served my purpose best have been some forms of iron, strychnia, mercury, acids and cinchona. A preparation of iron known as Gude's Pepto Mangan is the remedy par excellence in anæmic patients. A favorite prescription with me, as a reconstructive tonic, is: sulph. strych., nitro muriatic acid and comp. tinct. cinchona; also bichloride mercury, with comp. tinct. cinchona, has served me well when due to an endometritis. The iodide potash is of incalculable benefit in that variety due to a *chronic ovaritis*. *During* the interval all unhealthy conditions of the uterus and its appendages are to be remedied by proper medical and surgical treatment. The condition most often met with is *chronic endometritis*, which should be met by cervical dilatation and thorough uterine curettage and packing with iodoform gauze. This is the ultimatum of excellence in the treatment of a large majority of cases of dysmenorrhœa which come under our observation. In the membranous variety the curetting and packing often has to be repeated, and even in the obstructive variety we sometimes have relapses.

To my mind, electricity should play a very much more important part in the treatment of this trouble than has yet been accorded it, especially in the neuralgic type. In dysmenorrhœa where you have a glistening discharge either from the cervix or endometrium, much good is often accomplished by local applications of iodine and iodized phenol; especially so when there is a soft, flabby uterus with subinvolution. These local applications have a double action for good, viz.: that of astringent and healing, and the irritation to the endometrium causes a contraction of the muscular fibres of the uterus, thereby throwing off within itself any debris that may be deposited within its cavity. It appears to me that pelvic massage can be made a potent factor in the treatment of dysmenorrhœa, for massage helps nature to restore to the organs their normal tonicity and vitality, by mechanically removing the obstacles which impede proper circulation. In a case of adhesions with uterus bound down, massage can be of inestimable value in stretching the adhesions, and thus lifting the uterus up by a movement passive motion-like, repeated until it is placed and held in proper position with a normal circulation; in consequence of which we will have a painless menstruation.

The *preventive* treatment should begin in early youth and continue until relieved by nature. The first step towards the accomplishment of this prevention should be a radical change in the present system of female education. Upon this point I do not wish to be misunderstood. I am an advocate of higher female education, yet I believe the women of our land would be infinitely better off with an elementary education—and trust their inclinations and opportunities for intellectual improvement in the future, when the stage of maturity has been reached—rather than to pursue the murderous system that is now followed in their education. Contrast for a moment in your mind the strong country-raised girl to those of the large cities; and if it were not for these exhaustless fountains of strength and womanhood to draw from, we would have a more rapid deterioration than has already been shown.

If you wish further evidence of the proposition I have assumed, visit the female colleges throughout the land next June, and there you will see a spectacle more awful than words can tell or pen describe. There you will see more than 75 per cent. presenting a spectacle that should cause their parents to tremble with alarm; for the roseate blushes of morning's hope have been chased away by the midnight shadows of nervous exhaustion, and the bright, twinkling eyes have been made humid by over concentrated energy on Latin verbs and mathematical equations, and the plump hand of nine months previous has given place to a palsied, hysterical movement, and the sweet-tempered, blushing maiden has been transformed into irritability and crossness.

Gentlemen, a great revolution must sweep over the world, breaking down established opinions, dissolving foundations on which historical faith has been built, and the minds of the people should be charged with a battery which would explode, tearing to fragments the very tenets of the present system of female education. The medical profession should make a desperate effort to correct the existing evil tendencies that threaten the coming womanhood of our land, and when it is done, in *one decade* its influence will be seen and felt from Maine to Mexico, and the coming generation will lay tribute at the altar of the profession, from the poorest peasant in her hovel to the queen upon her throne. From *every* source would come the acknowledged good to humanity, gathered in like the Florida orange tree that sucks the rich, sweet juices from the sands and with sweeter adulation wins golden glories from the sun.—*The Ala. Med. and Sur. Age.*

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Aseptic Surgery; Its Application to Private Practice.

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It would be interesting to trace the present knowledge of surgical infection back through all its phases of development.

The subject can be best studied, historically, by a review of the chemical experimentation that settled the vexed question of the causes of fermentation and of putrefaction. The present status of surgery depends, primarily, upon the efforts of chemists, especially those interested in wine and beer production, to determine why milk turns sour, grape juice becomes wine, wine vinegar, and vinegar a "foul, insipid fluid," without the addition of any chemical reagent.

The difficulty in explaining this change was due to the fact that no chemical formula could be evolved which fully represented the equation. It was easy to write a formula that expressed in definite terms the change that had resulted in a given case, but it was impossible to explain what had set the process in motion. Why was it that milk would change from sweet to sour, showing that the milk sugar it contained had become lactic acid, while a solution of pure milk sugar in pure water absolutely refused to undergo the same process? It became evident that there was something else inherent to the fermenting process that set it in motion. It was to the discovery of this unknown entity that chemists bent their efforts.

The problem was gradually clearing up as far back as Von Helmont (born in 1577), who first showed that the gas eliminated during fermentation was different from the air and identical with that formed by the combustion of charcoal and the calcination of limestone.

Alcohol had long before been recognized. As far back as the eighth century distillation was known and practiced, but up to the thirteen century pure alcohol was unknown.

Stahl (1660-1734), court physician to the Duke of Weimar (1687), Professor of Medicine in Halle (1694), and Physician to the King of Prussia (1716), who originated the phlogiston theory, was the first to discover that vinous fermentation and putrefaction belong to the same class of phenomena. He explained both as "disturbances in the molecules of the fermenting body, brought about by the pre-existing molecular motion." Leuwenhœk, a Dutch philosopher, in 1680 found, with the imperfect microscopes in use at that time, that yeast consisted of minute globular or ovoid particles. Had his instruments been better, the phenomena might perhaps have been explained earlier.

It took until 1836 for Schwann and Caignard-Latour, acting independently of one another, to prove that Leuwenhœk's globules were membraneous bags, exhibiting the characteristics of vegetable cells and increasing and multiplying rapidly in the same way when brought under proper conditions. It had already been recognized that the yeast increased in vinous fermentation, and, therefore, it was natural that they should conclude that yeast was a plant, and that as it grew it in some unexplained way set up the chemical change. Schwann, in a series of elaborate experiments, attempted to settle the question of spontaneous generation, his yeast experiments being only a part of this problem. Lenwenhœk's discovery of the yeast fungus by means of his imperfect microscope had more to do with explaining putrefaction than fermentation, and surgeons began to recognize the fact that frequent changes of dressing had something to do with the prevention of putrefaction in wounds. In 1773 Muller had attempted to classify the different micro-organisms which had already been described, but this resulted in but little definite information.

In the same year (1836) that Caignard-Latour and Schwann discovered that the yeast plant was the essential *vis-a-tergo* in the process of fermentation, and that it was composed of vegetable cells, that increased by direct multiplication, Schultze showed that putrefaction was not due to oxygen, Schwann (1839), Ure (1840) and Helmholtz (1843) repeated and confirmed this statement; whlle Downe (1836), described micro-organisms in pus and in chancrous pus, and concluded that these organisms were not identical. One year later (1837), Beauperthuis, and still another year after, Adet die Roseville, also noticed the same thing, and they declared that these organisms were the cause of putrefaction. In 1837, Schwann, in addition to his work on fermentation, now published a series of experiments, in which he proved that these organisms acted in the production of putrefaction as the yeast plant did in causing fermentation, and he

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also proved their presence in putrefying meat and other albuminoids. From this time on these experiments were tested by various observers, and we should think they would have been adopted by chemists generally.

This was not the case, however, although micro-organisms were constantly being discovered. In 1849, Pollender declared that he had found micro-organisms in the blood of animals that died of splenic fever, and in 1850 Davainne and Rayer observed small, transparent, rod-like bodies, after a similar series of experiments, but they did not realize the importance of their discovery. Schroeder and Von Dusch (1854) published the fact that a cotton plug prevented the something in the air that set fermentation and putrefaction in motion from coming in contact with the solutions or solids that otherwise would become proper media for the setting up of the processes. In 1860, and the next few succeeding years, Pasteur settled the whole question by his masterly review of the field, and his own remarkable series of experiments. Following this came Lister's appreciation of the results of these experiments in their application to surgery, and his attempt to destroy the germs present in the air and the wound by antiseptics, and to prevent fresh contact of new germs with the healing wound by means of the cotton filter. This started the antiseptic era that has revolutionized surgery, and it is the results of these early experiments that have made bacteriology a science and enabled the surgeon to get away from the cumbrous methods of early antisepis.

It does not interest us to trace the change that has been going on during the past twenty years. This is too recent not to be thoroughly appreciated by all medical men of the present generation. The point that we are anxious to determine is whether it is possible to apply these methods in our private work. It has been fully demonstrated that in our large hospitals, with expert assistants in every department, with our carefully built operating rooms, where glass, marble and concrete enter almost exclusively into the construction, and where dust can be reduced to a minimum, and cleanliness is a virtue advanced beyond its usual position, and ranking before godliness, ascepticism is possible.

It is the recognition of the fact that it is not the germ itself, as we formerly thought, that causes all the difficulties, but the products of the germ growth; therefore it no longer becomes essential to prevent the access of the germ to our wounds, so long as we can deprive them of the proper soil in which to grow, and eliminate the toxic principles. This is the essential point in all of our surgical work. In order to do this, however, it is best to destroy all living germs in the materials we are likely to use, as a dead micro-organism does not eliminate poison, and cannot take advantage of an error in technique that would leave it possessor of a kingdom fully ripe for the propagation of its poisons. Preparation for the operation becomes then the essential. I am going to confine myself largely to a description of my own methods, since I am convinced that these methods have contributed to my success in my operative work in the homes of my patients and in my office. Simplification is the important factor. It was the difficulty of application of the Listerian method that prevented its adoption by the general practitioner. But if one is inclined to be careful in his personal attention to details there is no reason why every case we are called upon to treat should not be treated aseptically now. This does not apply, however, to the large class of wounds where the germs have already secured their lodgment, and where the products of their growth have already produced suppuration and surgical infection. Here antisepsis must still be the fundamental principle of treatment.

It is also impossible, if one would be absolutely certain of his results, to avoid the use of some antiseptics in the course of the preparation for an aseptic operation, but this does not prevent the operation itself being performed without bringing the wound into contact with any of the chemical germicides, in sufficient quantity, at least, to allow of their irritating qualities affecting the perfection of the result.

The question resolves itself into the natural division of the patient and his surroundings, the materials used in the operation and their preparation, and the preparation of the surgeon and his assistants.

Just here let me advise a very careful physical examination some days, if possible, before the day appointed. This should reveal the present condition of the lungs, the presence or absence of bronchitis, tuberculosis, emphysema, etc.; it will also determine the condition of the heart. The urine, I believe, should be examined several times —not simply once the day before, but every day or two for a week or ten days. This examination should be both for quantity and chemical and mi-

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croscopical conditions. If this is done, it is possible that one may be spared some disappointment in the after results; for, if the patient has a lesion that would indicate a choice of anæsthetics, that choice can be exercised, and if a nephritis is present, one is prepared to deal with its increased intensity afterwards much better than if he has to find its presence by its symptoms during convalescence. Such examination, too, might yield results that would indicate greater difficulty in obtaining primary union, and would, therefore, settle the question, approximately at least, as to whether the trouble was due to the patient's condition, or to some error in preparation or technique.

The selection of the room is important One should not be guided in this by the statement of the patient or friends, but should, if possible, visit the house and make the selection personally. I usually consider the light first. If there are two rooms, one with and the other without a carpet, but both with equally good light, I should select the uncarpeted one, otherwise the better light would lead me to decide in favor of the room with the carpeted floor. Some operators insist upon the taking up of the carpet and the removal of all furniture, ornaments and pictures. If there is plenty of time, and this can be done a day or two beforehand, it is, of course, of advantage, but if it is not possible, or if it must be done on the day of operation, do not have the carpet or pictures touched. I sometimes question whether it is worth while to do all this at any time, for wet tea-leaves spread over the carpet will prevent dust from that source, and plenty of steam in the room will moisten the particles clinging to pictures, walls and cornices sufficienty to make them stick in their places long enough for us to finish our work and get the wound covered and out of danger from this source. Hangings at doors and windows, including window shades, should be taken away, because they must be brushed against, and are not likely to hold the dust as well. The latter, too, shut out light, and are objectionable on that account. Upholstered furniture should be removed, but do not, under any circumstances, allow of the invasion of this room by any one armed with a broom or dusting-brush on the day of operation. The free dust may be removed with a damp cloth, but should not be driven from one place to settle in another by any brushing or dusting operations. Only within a day or two I was obliged to put a sweeper out of a room where I was preparing to do an emergency appendicitis operation, the family believing that a few leaves that had fallen on the floor from some plants in the window should be swept up before we began. The temperature of the room is important. If possible, an open fire or a coal stove I consider valuable, because it is then possible to regulate the temperate as we please before beginning to operate; fuel placed on the fire during the preparation of the room should be dampened sufficiently to prevent its adding to the floating dust particles. If there is a stove in the room, I always have a wash boiler filled with water and placed on the top. The steam contributes to the laying of the dust, and it is a reserve fund of hot water in case of necessity. An oil or gas stove may be used for this purpose also. At the same time that we select the room we should give the necessary instructions about the furniture, and other preparations that must be made by the patients. It is absolutely essential that we should have a proper operating table; never operate upon a bed or couch. The position is uncomfortable and prevents good work on that account, and the bed or couch is very apt to be infected.

The best table is the one we are most apt to find in all houses, the ordinary deal kitchen table. This should be scrubbed off carefully with a bichloride (1-1000), or carbolic solution (1-40). If this is not at hand, a couple of horses can be made at the nearest carpenter's, like his saw horses, only higher; say thirty-six inches. We can use the leaves of an ordinary dining-room extension table on top of these. In an emergency, four chairs, provided they have a flat cross-piece across the top of the back, can be used. They are placed back to back and tied together, and the table-leaves or a couple of boards, are tied to them by means of a piece of rope. Over this table, spread several old but clean blankets. Four or five small tables that have also been washed should likewise be provided. If the carpet is to remain on the floor, something—oil-cloth, rubber sheet or pieces of carpet, wrong side up—should be spread over it to protect it. As many china wash-bowls as are obtainable should be ready, with two or three wash pitchers and a foot-tub, wash-tub, or bucket for wash water. Four or five clean sheets should be wrung out of a 1-1000 bichloride solution and rough dried over night; as many towels as we can get should be ready. The family should be instructed to have plenty of boiling water, and there should be a

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good fire in the kitchen range, with a pan of some kind in which the instruments can be boiled. Some vinegar, or a bottle of household ammonia, for cleaning the hands and instruments after the operation, is a luxury that is well to ask for. The room where the patient is to remain after the operation I prefer should not be the one where the operation is performed, for the atmosphere is necessarily impure, and it takes some time to rid it of the smell of the ether. This room should also be well ventilated and warm, and the bed should stand out from the wall if possible, so as to allow of reaching both sides without moving it. The mattress should be brushed, and it should always be a firm one—never a feather bed; over it a rubber sheet should be spread, and then the ordinary lower sheet. At first I prefer that the patient should lie between two blankets, so that one should be spread over the sheet with another ready to draw over the patient as soon as he is put to bed. The family are now instructed to warm the bed, during the progress of the operation, by means of a dozen wine or beer bottles filled with hot water, and these can be used against the patient's body to help warm him if necessary. It is important to make sure that these bottles are not too hot when the patient is put to bed for fear they will burn him and make a blister before he is sufficiently conscious to move.

The preparation of the patient, in addition to the physical examination already alluded to, should consist in shaving the parts about the operative field the day before. A soap poultice—green soap spread on gauze—is then placed over the whole region and left in place until the morning of the operation. The bowels should be acted upon freely, and on the morning of the operation the soap poultice should be removed and the patient should take a hot bath, rubbing the part that had been covered with the soap especially. On leaving the bath a compress only partially wrung out of 1-1000 bichloride should be put over the region that had been covered by the soap poultice, and kept in position until ready for the operation. We should make sure that a bed pan and urinal are at hand.

The preparation of the materials occupy most of the surgeon's time. If he has sufficient confidence in the different ligatures and dressings as they are prepared in bulk by the different manufacturers, he will be saved much labor. I confess I have not, and I never feel safe in an important operation unless I have personally superintended the sterilization of everything the evening before. This can be readily done without much expensive apparatus. Some operators use reef sponges still, and have good results. I have not had one in my office for two or three years. I use absorbent gauze, cut into pieces eight inches wide, and the length corresponding to the width of the goods. They are then folded so that the raw cut edges meet in the center, making the width about three inches and then the two selvedge ends are turned in until they meet. The goods is then folded lengthwise, until the whole piece measures about 3 x 4 or 5 inches, and it is basted about the edges with ordinary sewing cotton. These sponges are made up in quantities, boiled, and kept in well-covered glass jars, ready for use. Enough are always taken out of the stock jars when preparing for an operation, and boiled with the instruments (jar and all), in order to be perfectly safe. I prefer to supply my own towels for use about the patient, and for this purpose buy glass toweling by the piece, cut it into lengths of one yard, and have it hemmed. From 18 to 20 of these towels as they come folded from the laundry, are done up in two packages by means of two of the towels. The gauze for compresses is cut into strips a little wider than the sponge strips, and also pinned into a towel; the cotton is treated in the same way. Now, take an ordinary close boiler, put in about three inches of water add to this a small handful of washing soda. This is then placed on the range and allowed to boil. From each of the handles a sling made of ordinary gauze or toweling is hung, making a diaphragm across the boiler. The instruments are wrapped in a towel, excepting the knives, and put in the water, and the sponge jar is also dropped on its side in the water. The package containing towels, gauze, cotton and operating suits, which are wrapped up in the same way, are placed in this sling, the cover put on, and the whole left to boil for an hour or more. At the same time I put an asparagus boiler, three-quarters full of water, on a gas or oil stove in a closet where there is running water. A Dowd sterilizer is suspended above this, and the cat-gut is boiled in alcohol. In the asparagus boiler I boil my silkworm-gut and silk at the same time. This also boils for one hour. Then wash off several rubber aprons and rubber sheets with 1-1000 bichloride. After spreading a clean sheet over the operating table these are laid upon

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it to receive the different sterilized packages when they are ready. As they cannot be wrapped in rubber until they have cooled somewhat, select the instrument trays to be used the next day and wash them in bichloride solution, and then set them on the table to receive the packages. As soon as these have cooled sufficiently they are wrapped in the rubbers ready for packing in the valises. In the asparagus boiler are boiling a pair of long-handled forceps and a vulsellum. The latter is to take the packages out of the sterilizer, and the former to pick out the bottles. Bottles and corks are boiled at the same time, and the corks are put back while the bottles are full to the brim and hot.

I sterilize everything—cat-gut and all—before every operation, and while preparing the dressings for the sterilizer, prefer to wear an operating gown and to prepare my hands as for an operation.

As soon as everything is prepared it is packed in the bags, which are then locked.

The instruments are roughly dried with a sterilized towel to prevent their rusting if put away wet.

Kangaroo tendon is prepared in the same way, and at the same time as the cat-gut.

Gauze and muslin bandages may be sterilized with the towels and suits if necessary. I seldom sterilize a bandage because it is going outside of a good sterilized dressing, and it is to be in contact with the bedclothes and other articles that cannot be kept sterile. The final preparations at the house are very simple. The room that has been prepared for operation is dusted an hour beforehand with a damp cloth. The patient should go to bed about half an hour before the time, and the only clothes that should be left on are the night-gown and a flannel shirt and stockings for a woman, and a suit of pajamas or a night-shirt and a pair of stockings for a man. I prefer to take off the night clothes if the operation is above the waist before beginning the operation, because it is almost impossible to prevent their getting wet in case it becomes necessary to use irrigation, and it is more troublesome to remove them after the operation than before. It is best to have an old undershirt or undervest and night clothes that have been split down the front ready to put on the patient as soon as he is returned to the bed. These are put on wrong side front so that the chest is well-covered, but as the patient lies upon the back usually this does not need covering and simply rests in contact with the bed clothes. The advantage of this is that the patient is perfectly dry when put back in bed, and the clothing is easily changed without the necessity of raising the head or changing the position in order to put on his ordinary bed clothes.

On arriving at the house the operating table is covered with the old blankets, and with one of the sheets that have been wrung out of the bichloride solution. Under this sheet I usually place one of my rubber blankets, letting it hang over the side of the table, pinning the corners together so that it makes a trough to carry off irrigating fluids. The foot tub, wash tub or a pail is placed under this to catch the drainage from the table. A small pillow can be placed at the head of the table.

The small tables for instruments, sponges, etc., are now covered with towels belonging to the house, excepting the one on which the instruments are placed, with the cat-gut, etc. This is covered with one of my sterilized towels.

I usually have considerable bichloride, 1-3000, made up in order that if suppuration has begun we can immediately give up the aseptic operation, and adopt the antiseptic method. This is essential, because it would be impossible in an aseptic operation in many instances to so thoroughly remove all the products of suppuration that the wound would be rendered perfectly sterile, and the advantage of the antiseptic method is that it does kill some of the germs, and occasionly so controls their activity that we are able to get rid of the suppuration, and get a comparatively clean wound.

A very good plan in buying instrument trays is to get a couple of sufficient depth that they can be used for the boiling of the instruments, as we do here in the hospital. The instruments are then placed in one of the trays, which is filled with water containing wash soda, and the other tray is placed on top of this. They can then be placed upon the range or upon a gas or oil stove, and the instruments boiled. The tray is, as soon as the boiling is completed, carried directly to the table prepared for the instruments, the top tray is turned over, filled with boiled soda solution, and some of the instruments transferred to it. In this way both trays and instruments are thoroughly sterilized at the same time, and the annoyance is avoided of asking the family for a utensil to boil the instruments in.

A bottle of 95 per cent. carbolic acid should

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make up a part of the armamentarium. I do not care about this for immersing instruments, but it is well to have it on hand so that the knives can be sterilized without boiling, which destroys their temper and cutting edge.

Simple boiled water answers for the sponges, and the pitchers are filled also with boiled water containing a 6-10 per cent. salt solution for irrigation.

The dressings, gauze, cotton and bandages are not removed from their packages until they are to be used.

Everything being ready the patient is anæsthetized in bed and transferred to the operating table. While the anæsthesia is going on, the surgeon and his assistants must prepare their hands; and this is done by washing for five minutes in as hot water as possible, using a stiff brush; great care being taken to cleanse all ungual spaces by means of the nail scraper and the brush. Green soap, I think, should be an accompaniment of this cleansing process, and this may be prepared by taking ½ soap, ¼ alcohol and ¼ glycerine, to which, if one wishes to be fastidious, a little oil of roses, or something else of the kind, may be added. The hands are then washed in absolute alcohol, and then in a 1-1000 bichloride solution.

During the course of the operation a basin of sterilized salt solution should be near at hand for the operator to wash his hands in as they get sticky.

As soon as the patient is placed upon the table, the surgeon himself, or an assistant, if he is thoroughly trained, removes the clothing completely from the operative field, and cuts off the bichloride dressing which was put on in the morning. Hot water and plain soap are now used freely, with the brush, all over the region. This is then thoroughly washed away, and plenty of ether poured on, and washed off with a couple of sponges or a sterilized towel. If the region has not been shaved the day before, this should be done before the washing with soap and water. If the operation is to invade the rectum or the vagina the same pains should be taken to wash them out that is taken with the external skin, using a brush and soap, and finishing with a good bichloride douche. The operative field is now surrounded completely with the sterilized towels that were prepared the night before, and they are held from slipping by being pinned together so as to leave a rectangular place open over the exact site of the operation.

In cases of abdominal operation a few of these towels are kept in hot saline solution for use in retracting the intestines as they come in the wound. I prefer these to sponges because they are too large to be lost in the abdominal cavity, and cover the field rather better than a sponge, and do not take up space.

Irrigation is never employed unless pus is found; care is taken to arrest all hemorrhage, either by torsion, ligature with fine cat-gut, or compression, until the wound is perfectly dry. In buried sutures, absorbable materials are preferred, usually cat-gut, but if we want to make sure that the sutures will hold for a longer time kangaroo tendon may be utilized.

In closing the abdomen it is preferable, in my opinion, to close each layer separately. It adds to the strength of the cicatrix, and makes it certain that the fascial layers do not gap so as leave a weak point for the appearance of a hernia. This takes a little more time, but gives a more satisfactory result.

As soon as the operation is completed, and the wound closed, drainage having been used only in case of a pocket that cannot be occluded by sutures or by the dressing, the operative field is thoroughly cleaned with a towel wrung out of the salt solulion, or out of the bichloride, as the case may be.

The packages of dressings are then opened and sterilized gauze placed over the wound. I do not use "protective" over the incision, as I believe this sometimes allows of retention of secretions, and it confines the moisture from the skin which it covers and which should be absorbed by the dressing.

Plenty of gauze having been used over the wound to make quite a pressure, a good layer of cotton is placed over all, and this is bandaged in place. Unless some reason arises this is not disturbed for eight or nine days. In drainage, I prefer gauze to anything else, and in abdominal drainage it is preferable to wait before removing this gauze until it gets loose, particularly if it has been placed in position to arrest oozing.

As you notice, nothing has been said about the preparation or use of iodoform gauze. I do not care to have any of the antiseptic powders in my wounds unless suppuration is already present. In abscesses needing drainage and packing, iodoform gauze is employed, and this is prepared by rubbing iodoform into the sterilized gauze; but unless suppuration is present, plain sterilized

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absorbent gauze is the only thing introduced into the wound cavity, or as a dressing over a closed incision.

After the patient has been put to bed the instruments are transferred to a pan of clean, boiling water, the blood is rinsed off, and they are simply dried sufficiently to prevent rusting. If the blood is dried on, a little vinegar will help to remove it. They are then wrapped in a towel, and on reaching home are boiled in the sterilizer, cleaned with electro-silicon or other polishing material, and put in the closet. In this way my instruments are boiled three times for every operation.

At the dressings the same precautions are taken as with the operation. That is, the hands are prepared carefully in the same way, and the bed and bed clothes about the wound are covered with sterilized towels.

In all operative work, and in all dressings, the surgeon's outer garments should be covered, and his sleeves should be rolled up above the elbows, the preparation of the hand including the preparation of the whole forearm.

I emphasize the necessity of covering the clothing with a clean sterilized gown, because I am convinced that I have on one occasion, at least, been the cause of an epidemic of erysipelas that occurred among my operative patients, and that the infection was in some way carried on my hands or in my clothing. This danger is intensified with men who are doing a general practice and dealing with infection of different kinds, and they should exercise greater precautions than those who devote their attention exclusively to surgery, and whose septic infection is most likely confined to the streptococcus and staphylococcus pyogenes.

This seems like a tremendous undertaking for the general practitioner, but if it is conducted properly it need occupy very little time. A few minutes suffices for the preparation of the bundles to be steamed, and I usually do this either at night, after every one in the house has retired, or else during my office hours in the morning, as once these articles are placed in the sterilizer one has nothing to do until they are ready to be taken out, and one can attend to any other duties. It takes but a few minutes before removing them, to wash one's hands, and slip on a gown, and the actual time occupied will not exceed half to three-quarters of an hour, provided the sponges, the gauze and the towels are already at hand, and do not have to be made during the preparation for the operation.

I usually sterilize a much larger quantity of everything than I expect to use in any given case. The surplus stock does for office work and obviates the necessity of constant sterilization to provide material for office dressings.

Once mastered, the technique of this method will become a matter of routine, and I believe we should carry out the preparation just as carefully for a septic as for an aseptic case, and my results have been so good since I have been using this method, that I believe it can be adopted in ordinary surgical work. I do not mean to say the proper results are reached in every case. This would be ideal and impossible, still it should be remembered that suppuration at the present time is probably due to some error in technique, and should lead the operator to a careful scrutiny of his methods and a study of the different materials used in the operation. If he understands bacteriology at all he should understand enough of it at least to take care of the surgical bacteria. Cultures should be made of the different materials employed in order to determine if possible, the source of the infection. Absolute confidence in and satisfaction with any given method of preparation is to my mind indicative of either faulty observation, or practice upon a small number of cases, for in a considerable surgical experience one is sure to find cases that do not yield perfect results.

I have, however, used this method successfully in a vast majority of my operative cases in the last few years. This includes abdominal sections for various purposes, herniotomies, suprapubic cystotomies, trephining, amputations of the mamma, amputations of the extremities, plastic operations, and so on, through the range of general surgical work. It is exceedingly rare to have suppuration, and when suppuration has appeared, it has usually been possible to trace it either to the condition of the patient prior to the operation, or to some distinct error in my own technique.—*Medical and Surgical Reporter.*

How dear to our heart is the cash on subscription
When the generous subscriber presents it to view;
But the man who don't pay—we refrain from description,
For perhaps, gentle reader, that man may be you. —*Exchange.*

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The Non-Existence of Human Equality.

Dr. Forbes Winslow contends that under despotic forms of government suicide is much less prevalent than it is in countries governed on the principles of republicanism, which is another term for human equality (*The Annals of Hygiene*). Where the actions, thoughts, lives of human beings are controlled rather by others than by themselves, where the life of the masses is, so to speak, regulated by the logical intelligence of constituted authority rather than by the ofttimes erratic impulse of the individual, under such conditions (paradoxical as it may seem until explained) life is in itself more pleasant to the individual, and he is hence less anxious to terminate it. It seems to us logical to infer that each act of self-destruction must necessarily imply that the person so acting has no wish for a continued life, and it must be conceded that this frame of mind must be the outcome or the result of a life so lived that its living has not been, or at least is not at the time of the act, a pleasure to the individual. Even an insane man will not kill himself if his insanity is a pleasure to him; the very act of self-destruction implies a determination to destroy a consciousness that is a constant or a momentary source of discomfort. We assume as incontrovertible that no healthy person whose life, whose very living, is a source of pleasure ever committed suicide, ever willfully sacrificed that which to him was a pleasant possession, and when we find self-destruction most prevalent among those whose lives are self-regulated, we are compelled to pause and ask whether each individual is capable of regulating his life, his methods of life, to the best advantage, to the attainment of the best ends of which his organism is capable. In his lecture on "Liberty of Man, Woman and Child," Col. Robert G. Ingersoll contends that thought is material, that thought is a brain product, as vegetables are products of the soil, and that each individual should harvest his mental crop and act in accordance with the dictates thereof. The idea is in accord with the theory of human equality; but it is not in accord with the teachings of biology or of physiology, the student of which cannot logically believe in the equality of mankind. Nature plainly indicates that she intends that a comparatively few shall lead the masses who are designed as followers. Grains from the same ear of corn planted, in the one instance, in the rich, fertile soil of Pennsylvania, and in the other instance in the barren, sandy soil of lower Jersey, will germinate and produce crops in both localities, but how vastly will they differ; so the same exciting or inciting impressions upon the brains of one thousand men will produce one thousand crops of thoughts, but how vastly will they differ, from the most logical to the depths of absurdity, from conservatism to socialism, from good citizenship to nihilism, from self-preservation to self-destruction. While, according to our constitution, man may be born free and equal in the eyes of the law, he is not free and he is not equal in the eyes of nature; he is born a slave to inherited tendencies, and he is born in all varying degrees of self-capacity. Did we but recognize the unquestionable fact that mentality is capable of development, not alone by books and by the help of others, but by exercise and use of the mental attributes born with each of us; did we each one of us recognize that we are not all equal in the eyes of nature, and did we each strive patiently to understand and properly estimate ourselves and to fit ourselves into the holes designed for us by nature, we would have very little anarchism; we would have much less self-destruction, and this world would be altogether a much more pleasant place to live in. Argue as we may, men are not all equal, physically and mentally; nor are women either, and it is the direct and indirect and remote results of the assumption that they are that make most of the trouble of the world.—*Medical Record.*

Angiomata.

By J. Abbott Cantrell, Philadelphia, Pa.

Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine; Dermatologist to the Philadelphia Hospital, the Frederich Douglass Memorial Hospital, and the Southern Dispensary, Philadelphia.

Vascular growths of the human skin have been divided, at different times, into four varieties: 1st, Telangiectasis; 2d, Nævus vascularis; 3rd, Angio-Elephantiasis; 4th, Tumor cavenosus, (Kaposi and others). At other times into three forms: 1st, Nævus vasculosis; 2d, Telangiectasis; 3rd, Angioma Cavernosum, (Van Harlingen and others). Still others have advised the use of two terms only, so as to prevent confusion to the student: 1st, Nævus vasculosus, including the congenital vascular new growths; 2d, Telangiectasis, embracing the acquired vascular dilatations, (Hardaway, myself, and others).

In the latter division it is to be understood that

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the so-called cavernous tumor or angioma is considered as a variety of the vascular nævus and to be an advanced form of that condition. So I believe, with this simple division, there will be no chance of your becoming confused, and that you will distinctly understand the subject after its consideration.

Vascular nævi have, from time to time, been described under different titles such as "Nævus Vascularis" and "Nævus Sanguineus," but for convenience it will serve our purpose to forget that these names were ever applied. These new growths may be seen at the birth of the infant or it may be some weeks or months before they manifest themselves. They may be single or multiple, and of the size of a pin's point or much larger than the palm of one's hand. They may be flat or raised, and this fact may be governed by the greatness of the vessel attacked. The flat variety are usually quiescent, but may increase in size after remaining quiet for an indefinite period.

Those higher than the normal skin may become more turgescent at times of excessive anger or straining of any character, or pulsations synchronous with the heart's action may be noticed. The superficial capillaries or smaller arterial and venous branches are the points of attack.

The first case presents that form spoken of as "Nævus Araneus," and upon close inspection you may notice that it is composed of a number of small radiating lines of a light red color. From the statements of the mother she gives the accounted history of this form as being only a small red dot at the birth of the child, but that it has spread until to-day, at the age of four months, it occupies a space of one-half inch in diameter, and is situated upon the right cheek about the center. Thus it will be seen that in this case the patch has increased with the age of the child, but in the majority of instances it is noticed to remain stationary throughout the life of the individual; or in still other rare instances the patch will have been noticed to remain quiescent for an indefinite period, and then to have taken action and increased slightly in most cases, and in others to a greater or less extent. The color rarely differs and is generally found to be of a light red just as seen in the case before us. The second case is another of the same variety, but has undergone some treatment by means of the ordinary acetic acid. It has now had three applications, covering a period of as many weeks, and upon removing the dressings it will be seen that it has diminished at least one-half. In making this application it was used by dipping an ordinary wooden stick into the acid and applying directly to the part, in one or more instances puncturing the skin to get a more decided result, and as soon as some blanching occurred it was discontinued and covered with cotton batting for a short period only. As this means of treatment will be adopted in the case recently before us, I will show the result in about one week.

The port-wine mark usually occurs as a reddish blue or purple and may be seen upon almost any portion of the body, and while in some cases it may be rather a small patch, it has in others been noticed to occupy large areas, as one member of the body or upon one side of the face, and in other rarer instances the whole face and head may be involved. The case which I present to your view has been under constant observation for a period of at least twenty-four years, and I remember it when I was a boy and often was exceedingly frightened by the appearance. The patch, as I first recall it, covered most of the face and was, as first seen by me, of a bluish color, but of late that has changed to a purple, and now you may see that not only is the face involved, but alike, the condition is found throughout the scalp, and the lower line marks about the center of the neck. The lips, and especially the lower one, have increased greatly in size since first seen and now are found to be of about ten or twelve times their natural bulk. This variety may remain stationary but has been seen to have increased during the life of those affected. It is certainly most disfiguring, and I believe that little or nothing can be done for its destruction when it has reached the proportions seen in this case, but when it is of smaller size the same means, as above, may be adopted, or use may be made of one of the remedies that I will refer to later. "Nævus Pilosus" is applied to nævi that are covered with fine or dense hairs, but other than this does not differ from the above-mentioned forms.

The foregoing varieties portray those forms which are in constant attendance at our clinics. but the next, of which, I will show two examples, is of decidedly rare occurrence and is more usually delegated to the surgical clinics. The first occurs in a colored child of six months, and as this is the second visit, I will read the notes of her formal call. Female child, aged two months, presents a tumor-like growth upon the left side of

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the chest and slightly below the axilla. Upon measurement it is fonnd to be one and five-eighth inches in diameter and to be raised about one-sixteenth of an inch above the surrounding parts. To-day you may notice that it has perceptibly increased in size and the measurements record two and seven-eighths inches from side to side and two and three-eighths inches upwards and downwards. At the former visit I wanted to operate but the mother would not permit it, and, recalling it to my mind, I have sent for her that you may view the case with me to-day and see what can be done for the little one. If I was allowed to treat the case I should certainly extirpate immediately, but the mother has repeatedly withheld her consent, and we will be obliged to do the next best thing and I believe we may get a fair result, but this is a mere conjecture. This is by means of electrolysis, as is performed in removing hairs, although with a decided increase in the strength of battery over that method. Now what we have presented to us in this case is a nævus which is much raised above the normal skin and which has a slight pulsation. Upon compression we notice its disappearance to some extent and its return immediately upon its removal. It has a bluish or purple color, but which cannot be thoroughly seen as this child is a negro. This variety has received the name "Angioma Cavernosum" because of its recticulated structure. Sometimes it is not witnessed upon the surface of the skin, but may be felt as a small tumor beneath it. After a time the skin becomes involved by its extension and is then bound down to the underlying tumor. Its color at this time is of a bluish tint and the skin presents possibly many fissures.

The usual site of these bodies is the face, the hairy scalp, or arms and legs, but they may be found elsewhere. Their course is variable and of greatest uncertainty, as in some they may remain quiescent throughout life; while in others they may take activity and cause considerable trouble to the sufferer. Ulceration and gangrene may supervene in some few of the cases. In rare instances nævi may be fouud upon mucous membranes, and here they present the same general characters as found upon the outer surface. Pain may he felt in some, where there is a possibility of pressure upon nerves, either those of deep structure or those of the periphery.

Telangiectases are acquired conditions, and are usually witnessed in old age, but may be seen in early life in those who are subject to acne. They first show themselves as small pin-point-sized spots which gradually grow until they are distinguishable upon the skin's surface and, when firmly placed, are seen as short or long streaks of redness marking the skin. They may be numerous or only a few may be found. Usually witnessed upon the angles of the nose, coursing over the tip or body, or around the alæ, and also upon all portions of the cheeks. In some cases the number may be so large that the face will show one mass of streaky redness. This is the form that usually occurs to our view, and the case before us is a good description in itself. You notice upon the left cheek a number of these streaks, while upon the right side the whole surface is covered with innumerable vessels. The color is red in most instances, but here and there a bluish tinge is given them.

Another form of these enlargements in the blood vessels is that of a pin-head-sized reddish or purple papule-like growth which is slightly raised above the surrounding skin. These latter lesions may become the size of a half pea or bean. For the most part they are witnessed upon the trunk —either front or back—and may occur at almost any age, from childhood to old age. The case that is now before us presents quite a number of these little bodies, and a few days ago I undertook to count them and found that upon the back alone this young man presented, at least, one hundred of them, while the chest gave about fifty, and the arms each about twenty-five. Upon the lower extremities the number is not so great, although he has quite a sufficiency. In this case it would certainly be a life-long occupation to remove all these growths, and I, myself, would not like to undertake such an one. With those upon the face there are several operations that may be resorted to, and first of all, I may mention the one described by Squire in which a multiple-bladed knife is caused to sever these vessels in all directions, but unfortunately it does not always succeed, but more often fails. In cases of mild severity it may make an impression, but the plan that I will now mention will take precedence of all previous methods and be found more serviceable. The plan is the use of electrolysis as performed in removing superfluous hairs, but instead of passing the needle to the depth of the hair, you will, in most instances, give a slight puncture to the skin and thus perform your work more quickly. With this latter operation sittings may be given every week in one spot, but, when scattered

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over the face, a number of sittings may be given each week, working at some remote point at each seance.

Both these conditions are at first nothing more than a varicosity of the vessels, although in the nævus there is an increase in the number as well as having a thickness in their walls. Pulsating tumors are supplied with numerous veins and arteries which are intertwined so confusedly that it is difficult to say which predominates. Cavernous growths have one or more cavities communicating and formed by connective tissue and having an endothelial lining.

The etiology of nævi and telangiectases is rather obscure, but some writers will hold to the doctrine that maternal impressions, while carrying offspring in utero, have an influence in their production, and many examples are recorded of very peculiar conditions arising from this so-called reason. Congestions of the skin may be advanced as a cause for telangiectases, and where this is long continued it is rather plausible.

The diagnosis is at no time difficult if all points of a case are considered. The prognosis is rather unfavorable without operative measures, although it is not to be lost sight of that some of these lesions will disappear spontaneously, but only in rare instances. Other means of treatment may be adopted besides those mentioned in my former remarks. Compression, by means of fingers when there is a hardened background, or by means of compresses in constant contact with the part; vaccination, directly over the site of the lesion, (although the latter sometimes leaves some scarring), and by the use of chemicals may be advised with some assurance of success in a few cases. Of chemicals, mention may be made of acetic acid, the glacial acetic acid, ethylate of sodium, which has been freshly prepared only, nitric acid, carbolic acid, the acid nitrate of mercury, or chloride of zinc may be used with some degree of success, but care must be exercised in all cases not to make the disfigurement worse than the disease itself. Extirpation by the knife belongs to the surgeon. Electrolysis undoubtedly offers the best means of to-day, and the plan is just the same as used in our discussion of the subject of superfluous hairs. The results gained by this latter method are more pleasing than by the others because it does not occasion any bandaging afterwards. Our cases of this morning will be shown you at a future lecture.—*Medical and Surgical Reporter.*

Association Notes.

The American Medical Association meeting was a success. Dr. N. Senn was elected president for the ensuing year; Gen. Geo. M. Sternberg, U. S. A., vice-president. Members of the board of trustees are: Dr. E. E. Montgomery, Philadelphia; Dr. Joseph M. Mathews, Louisville; Dr. C. A. L. Reed, Cincinnati, and Dr. G. C. Savage, of Nashville. Next meeting is to be held in Philadelphia. The good people of Atlanta were very hospitable and everything conspired to make everybody happy.

THE JOURNAL extends its congratulations to the newly elected President. Dr. Senn laid the foundation of his great reputation in Milwaukee and how broad and deep the foundation witness the superstructure.

Dr. Fish reports a busy time in his section and Dr. Hill is reported as having had a glorious time, and we are sure both gentlemen made friends by the score.

Dr. Hill, Dr. Fish and Dr. Mackie, of Milwaukee, attended the Atlanta meeting.

Dr. Levings read a paper before the Association of Military Surgeons at St. Louis.

Milwaukee had a little small-pox scare. The case turned out to be one of "skin disease."

The health of the city is good and doctors are swinging out shingles on every corner.

Multiple Tumors of the Cerebrum.

D. Joseph Collins reported in the New York Pathological Society *(Dec. 11, 1895)* a case. There was loss of light reflex and accommodation reflex, but this was the *only* cranial palsy—a diagnosis was made of tumor of basal ganglia. The post mortem examination revealed "on the basal surface of the left cerebellar lobe a small, whitish tumor was found, apparently connected only to the pia. It was found also that the head of the caudate nucleus on the right side was the seat of a similar new growth; a third new growth, and the one which produced the symptoms, was found to involve the anterior and posterior quadrigeminal bodies." There was no gliosis of the cord. The case is of interest in the fact of the growth's involving the quadrigeminal bodies, with interference with the light reflex and accommodation reflex.—*New York Medical Record, February 15, 1896.*

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Original Articles.

The Relation of Typhoid Fever to Impure Water.

By WILLIAM E. GROUND, M. D., WEST SUPERIOR, WIS.

Read at the Meeting of the Interurban Academy of Medicine, at Duluth, January 17, 1896.

Pure water is as necessary for the establishment and maintenance of life as pure air and pure food. And this fact is of no recent recognition either. The cite of a town or village has not infrequently been determined by the finding of a living spring of pure flowing water. Nature has been very considerate in this respect and put within the reach of man a plentiful supply of wholesome water. But man by his ignorance and cupidity, has overburdened the soil with filthy matters and maintained cesspools and vaults, and polluted the natural water supply. Not only are the conditions of health ignored, but common decency even is frequently lost sight of. Even under these circumstances nature (ever on the alert) comes to the rescue, and provides for the removal of impurities, by preparing a filter in the upper layers of the earth and by instituting a series of chemical and biological changes, converts these death-dealing substances into harmless inorganic compounds. Notwithstanding the great and seemingly ample provision nature has made to care for all of her creatures, there is a limit. There is a limit to the purifying properties of the soil, so there is also to that of water, and there comes a time when the rivers and lakes, especially near the sources of their pollution, no longer afford a safe water supply. Such is the condition of the cities at the head of the lakes today, as well as many other cities on the great lakes.

The list of diseases which have been attributed to impure water is a long one. This fact has been recognized by the medical profession and laity alike. Mark Twain says that many a man has come to his untimely end by using bad water —in his whisky. While impure water by its general deleterious effect on the constitution of the individual may predispose to many diseases, the number of actual water-borne diseases are not many. The most notable being, mycotic diarrhœas and dysentery and Asiatic cholera and typhoid fever.

The common belief is that the chief element of danger is the presence of decomposing organic matter in the water. While this is so to a certain extent, the main reason for determining the amount and nature of dead organic matter in the water, is that water rich in such substances, especially when of animal origin, as from sewage, is very liable to contain disease producing germs that we know accompany such forms of pollution. The specific microscopic germ being the real source of danger. Millions of germs swarm in a glassful of ordinary river and lake water, but this need not alarm us for all of these may be harmless. They may not only be harmless, but may and actually are beneficial in many instances. For instance bacteria must have food, or like any other form of life they soon die. And this food must partly at least come from organic matter, so we can readily see how many of these micro-organisms that ordinarily inhabit the water act as true scavengers, removing from the water much of this dead organic matter.

Owing to the lack of time I will not stop to consider any form of water contamination except that of sewage or typhoid fever. That typhoid fever is pre-eminently a water-borne disease, is so self-evident that it seems almost a waste of time to offer before this society argument in support of it. Typhoid fever is known to be produced by bacillus getting into the intestinal canal and finding the proper soil and a susceptible individual, plants itself in Peyer's patches and

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begins to grow and to multiply, and as it grows and multiplies it destroys tissue and generates a poison, which circulating in the blood produces a fever and acceleration of the heart beat and produces parenchymatous degenerations and interstitial inflammations, besides the local hyperplasia and ulceration at the primary seat of inoculation, and concomitant evil results. The contents of the intestinal tube swarms with millions of typhoid germs in all degrees of development, and with all degrees of virulency, which are being from time to time discharged from the bowels and thrown into the sewer or privy vault, to contaminate water supplies and yield a bounteous crop of sickness and death.

A few years ago when engaged in practice in the White Mountain summer resorts of New Hampshire, I had several rare opportunities of observing isolated outbreaks of typhoid fever. These outbreaks I reported and they were published in the report of the State Board of Health of New Hampshire, Vol. 8, 1889, two of which I will relate here.

Livermore is a small village situated on a mountain side. A small, swift flowing stream called Sawyer's river runs through the valley. The main street runs parallel with the river, with a row of dwelling houses on the banks of this river. One of these houses, much larger than the rest, was used for a boarding house. In the rear of this boarding house and near the river's bank was a spring, which furnished water for drinking and culinary purposes, for a row of a dozen or more dwellings. About the middle of June a young man came to the boarding house and within a week took down with typhoid fever. There had not been a case of typhoid fever in this village for two years. Being not very accessable to medical aid, a physician was not called for a few days. During this time the discharges from the bowels and kidneys were thrown into a privy vault, situated conveniently in the back yard and within 10 or 12 feet of the spring. Within two weeks three cases of typhoid fever had developed, and before the end of a month there existed fifteen cases of typhoid fever among the people using water from said spring. I might add that the inclination from the privy to the spring was quite abrupt, affording an admirable opportunity for the contents of the vault to wash into the spring without losing any time.

The next outbreak of which I will speak occurred in Jackson, N. H., and originated in one of the large summer hotels located there. A young man came up from Boston and engaged as helper at the hotel, but was attacked with typhoid fever after being in the hotel two weeks. His dejecta was likewise thrown into a privy vault, which was cleaned every night. This case after a severe illness recovered. About a month after this lad first took sick another case occurred in a private family, in the same village but remote from the hotel. These people were residents of Jackson and none of them had been away for months, nor had they in any way associated with the hotel case. Finally a second case developed in the same family. The occurrences of these cases puzzled me very much, but finally after a careful investigation of their water supply, which was from a private spring of the clear, cool, and sparkling, located at the foot of a beautiful rolling hillside, upon which was a luxuriant growth of vegetation, consisting of grass and choice garden truck which was being fertilized by the garbage from the kitchen and the cleanings from the privy from the aforesaid hotel in which the young helper had typhoid fever. The rains and surface washings had simply by the natural law of gravitation carried the germ into the water-supply of this family.

Of course I recognize that such outbreaks, as I have recited, are not rare. Many of you doubtless have similar observations in mind. Sanitary literature records many sudden typhoid fever epidemics both in this country and in other countries. One of the most striking examples of what may be done by one case is the epidemic that occurred in Plymouth, Pa., in 1885. Here the excrement from a single case of typhoid fever was thrown out upon the snow on the banks of a mountain brook, which being damed furnished a water-supply for part of the city. This case occurred in January. On March 25 a general thaw began, followed by light rains, and the thawed-out dejecta flowed into the stream. On April 10, 50 cases of typhoid fever developed, and the disease spread so rapidly that within a month 1,200 persons were seized with

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the disease, and 130 died. A systematic investigation by Drs. Shakespeare and French of Philadelphia and others followed, and the whole outbreak was clearly traced to the case referred to.

There has appeared of late much literature, bearing upon the subject of the specificity of Eberth's typhoid bacillus. As this is not the place to go into the details of the bacteriological discussion, I will only say that many regard the identity of the colon bacillus and that of the typhoid bacillus as being the same. The concensus of opinion, however, seems to be clearly in favor of the distinct differentiation of the two micro-organisms.

While the human intestinal canal, affords the conditions most favorable for the growth of the typhoid germ, another question of very great importance is, will it live outside of the body, if so, how long, and under what circumstances? If the germ will live outside of the human body, will it grow and multiply, so that a few germs getting into water may produce many? While we may not be able to answer this positively the probabilities are that the tendency to multiply, especially in surface waters and waters free from sewage is not great, but that they live for a considerable time outside of the human organisms is an established fact. Jordan, in the *Medical News* of September 28, 1895, records a series of experiments conducted by himself, relative to determining the life and fate of the typhoid fever bacillus, when artificially introduced in water. A pure culture of known source, age, and character, (or virulence) was made. Then a given number of bacteria were added to a litre flask full of water to be tested, and the whole set aside at the room temperature, and from time to time the number of bacilli in the flask determined. The samples of water subjected to these tests were steam-sterilized Lake Michigan water, steam sterilized distilled water, and redistilled water to which a certain amount of nutrient peptone had been added. It was found that the typhoid bacillus maintained its vitality for 93 days in sterilized tap water, and in steam sterilized distilled water for a much less length of time, while in redistilled water it perished very rapidly. Whereas, on the other hand, where a standard solution of peptone had been added to the test water, the life of the bacillus was materially prolonged, showing that the presence of nitrogenous matter affected favorably the longevity of the germ. The addition of even a small quantity of organic nitrogen greatly augments the vitality and virulence of the typhoid bacillus. Experiments made at the Lawrence, Mass., Experiment Station proved that they existed for 28 days in filtered Merrimac River water.

The practical deductions drawn from these observations would lead us to at once assume that the initial cause of typhoid fever can and does exist for a variable period of time outside of the human organisms in water, milk, or the soil, and that the richer the containing medium is in dead nitrogenous matter (other things being equal) the more prolific and vigorous they are.

Another practical point to which I wish to refer is relative to the popular delusion that water is purified by being frozen solid. Many of the most dangerous elements in sewage float on the surface, where the freezing takes place, and it becomes part of the ice, although the ice is clear as a crystal. The process of freezing has little or no influence on the number or virulence of the disease producing germs. In Germany it was recently shown that ice taken from the river Spree contained 1,700 to the cubic centimeter, while ice from the Lake of Geneva contained 210, and melted hailstones yielded 72.

After a careful consideration of every phase of the subject we must conclude if we consider evidence at all, that the number of deaths from typhoid fever in any city is usually a fair measure of the impurity of its water supply. For instance in 1893, London had 719 deaths from typhoid fever, or 17 per 100,000 inhabitants. London obtains its water-supply almost entirely from the Thames and Lea rivers, both of which are polluted, but by a system of filtration nearly 99 per cent. of all micro-organisms are removed. The same year Berlin had 161 deaths from typhoid fever, or 9 per 100,000 inhabitants. Berlin also used dirty river water, but filters it and removes 99.6 per cent. of all germs.

Vienna in the same year had but 7 deaths per 100,000 people, showing the results of a pure spring water supply. In the United States, in the census year 1890, taking 50 of the largest

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cities, not one possessed as low a death-rate from typhoid fever as the city of London with her 17 per 100,000. Alleghany City, which derives its water from the Ohio River, had 217 typhoid deaths per 100,000 people. New Orleans had but 19 per 100,000. In Dayton, Ohio, which gets its water-supply from wells, has 25 per 100,000, while Toledo, which takes its water from the Maumee River has 39 deaths for a like number of people. Cincinnati yields 51 and Cleveland, which uses lake water, has 63 deaths from typhoid fever per 100,000 inhabitants.

In 1895 Superior had 22 deaths from typhoid fever or at the rate of about 75 per 100,000.

To show what can be done toward diminishing the death rate from typhoid fever by improving the water supply, I will cite a few examples. In 1892 Chicago had two systems of intake from Lake Michigan, one known as the shore inlet, a short tunnel intended for fire emergencies, and another from a crib farther out in the lake. This supply, especially the short one, was badly polluted by sewage from Chicago river. During this year there were 1,489 deaths from typhoid fever in Chicago, or 103 per 100,000 population. In December of the same year the short inlet was closed and the supply was taken from the new four mile tunnel, and as a result the next year there were but 41 deaths per 100,000, and in 1894 but 31. Chicago then was able within a very short time to reduce her typhoid death rate more than 60 per cent. by simply extending her intake farther out into the lake. Lawrence, Mass., is situated on the Merrimac River, nine miles below Lowell on the same river. Both cities have suffered severely from typhoid fever and both use unfiltered river water. Lawrence for several years, prior to 1893, averaged annually 127 deaths from typhoid fever per 100,000. In September of 1893 the entire water supply was treated to sand filtration, and as the result the following year the typhoid death rate dropped to 13, a reduction of 60 per cent., notwithstanding the fact that during all this time a severe epidemic was raging in Lowell, and continually discharging her sewage into the river only nine miles above Lawrence's filter beds. One of the most striking illustrations that literature affords bearing upon the question of the relation of typhoid fever to impure water is the City of Frankfort, Germany. Prior to 1872 this city was using a badly polluted water supply, and the yearly death rate from typhoid fever ranged from 100 to 110 per 100,000 population. Pure water was introduced in 1872 and by 1875 52 per cent. of the houses were connected to the pure water supply, when the deaths from typhoid fell to 42 per 100,000. Ten years later 84 per cent. of the houses were using the new water supply, and the death rate from the same cause was further reduced to 13 per 100,000. While in 1893 98 per cent. of the inhabitants were using the pure water supply and there were but 4 deaths from typhoid fever per 100,000 for that year.

This shows what can be done by applying our knowledge to the prevention of disease.

As regards sewage disposal I will speak of that in only a very general way as my colleague, Dr. Robinson, has treated of that in detail. Where the sewage of towns and the plumbing of important buildings are honestly controlled by expert engineers they rarely fail to be done reasonably well. In fact, it may be said that the adoption of good methods and plans for the removal of liquid and semi-solid waste from houses is becoming general. But this is only the first step in its disposition. It only gets our excrementitious matter out of our immediate neighborhood; it does not destroy it. The organic wastes from the material necessary for the maintenance of human life must be finally and completely consumed or disposed of, else it will soon react to the detriment of the organism it once served. Until they are resolved into their elements, their capacity for harm and offense is not ended. It is not enough to get them out of the house and out of the town. It does not suffice to discharge them into a cess-pool, nor does it always suffice to discharge them into the harbor, lake or watercourse. We are now confronted here at the head of the lakes, with the same problem that every other lake city of importance has had to contend with, viz., as to whether we shall use our lake as a source of water supply, or a cesspool or both. We have to our sorrow been trying the latter experiment. There is no doubt but that with a water company with

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a conscience we would have been a little more successful, but when the dry rot of moral depravity burrows into the very heart and vitals of a corporation to the extent that it is willing to deal out to an innocent community a disease producing and death-dealing liquid under the name of drinking water to save a few paltry dollars, our failure is only accelerated and made sure. There can be no question as to the efficacy of extending the water intake far out into the lake, and of maintaining it intact until it reaches the consumer. The arrangement of our harbor is such that it would be exceedingly improbable that sewage would go very far out into the lake. Most of the sewers of the Superiors empty into the bay, and as there exist only two points at which the sewage could get into the lake (the Duluth and the natural entry), I think the interception of contamination would be very nearly complete. Owing to the wonderful arrangement of Minnesota and Wisconsin Points much of the natural tendency to the pollution of the lake must necessarily be overcome. Chicago extended her intake out 4 miles and at once reduced her mortality from typhoid 60 per cent. If, like Chicago, an intake was extended four miles out into the lake and kept water tight and not allow bay water to leak in we would have as pure a water supply as any city on the globe. Take money? Of course; it will take much money, but it is worth every cent it would cost. Chicago is spending 30 millions of dollars to divert the Chicago river and carry its sewage into the Gulf of Mexico. Boston has accepted plans calling for the expenditure of a like amount to get a better water supply from Lake Winnepesaukee, at the base of the White Mountains of New Hampshire. And after all of this is done, neither will have anything approaching the quality of water we can procure by extending and maintaining the intake as mentioned. Then, again, what amount of money can compensate for the loss by sickness and death engendered by even a mild outbreak of typhoid fever? Compute it; it is appalling.

The community at large must understand that typhoid fever is almost wholly preventable. Mr. Ernest Hart, editor of the *British Medical Journal* declares that a death from typhoid fever is a violent death, is an instance of water poisoning, and should be the subject of a coroner's inquest. No company or individual has any moral right to sell anything used as food or drink that is in any way liable to prove deleterious to the person using it. Anything short of this is criminal. There is no use looking around here and there, for some miasm or gas or malaria, as the cause of typhoid fever, it is right here in our water, and most of the physicians recognize that fact. But occasionally we find misty and musty minds among doctors as well as among other classes. Persons who cannot reason because they will not think. Such persons ascribe their misfortunes to obscure and imaginary agents and in vain seek as the source of their evils, mysterious and remote causes, or perhaps to the powers and caprices of whimsical and fantastic beings. It is so easy to lay our burdens down at somebody's feet, and say God's will be done. There is too much of this sort of thing both in the ranks of the medical profession and out of it. Too much of an inclination to say, Well, it can't be helped.

Like the world of which we form a part, we are governed by natural laws, regular in their course and uniform in their effects; and these laws, the common source of good and evil, are not written among the distant stars, nor hidden in the codes of mystery; but inherent in the nature of terrestrial beings, interwoven with their existence and at all times and at all places they are present to us; they act upon our senses, they warn our understanding and give our every action its reward or punishment. Let us then know these laws, let us comprehend the nature of the elements which surround us, and also our own nature, and then we will know the regulators of our destinies, and the cause of our evils and the remedies we should apply.

1127 Tower Avenue.

In the discussion that followed the reading of this paper, Dr. Boyer, of Duluth, thought the currents of the lake should be investigated, before the location of the new intake was determined, as they, he thought had much to do with the distribution of the sewage.

Dr. Braden, of Duluth, regarded typhoid fever as due entirely to water contamination, and

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related many instances where diarrhœas and typhoid fever was clearly traceable to contamination by sewage. He thinks typhoid fever is never transmissable through the air.

Dr. Magie, of Duluth considers water contamination by excrement from a previous patient to be the only way of contracting typhoid. He attributed the recent outbreak in Duluth to gross sewage contamination. He called attention to the fact that a broken intake pipe was receiving water very near the mouth of a sewer, and that the water company was actually furnishing to the citizens of Duluth not a very highly dilute article of sewage, as drinking water. He thinks it best to extend the intake along the north shore.

Dr. Conkey, of Superior, called attention to the fact that the intake pipe of the Superior Water Company as it crosses the bay was in a leaky condition in many places, and that the citizens of Superior were not receiving lake water, but a sewage contaminated bay water. He referred to the project of the Superior Water Company to place a series of small reservoirs on Minnesota Point (which is the dividing line between the bay and the lake) and allow the water to naturally filter through the sand into the reservoirs. The doctor very much questioned the propriety of such a scheme, and thought it would only be of temporary benefit.

Dr. Specht, of Superior, related an instance that he witnessed a few days ago. A water pipe had become plugged by some means, when the faucet was removed a large bunch of intestines from a fish flew out. He emphasized the fact that Superior was getting a very bad and impure water supply.

Dr. Stocker, of Duluth, believes water to be the most frequent source of typhoid fever, but thinks it may be transmitted through the air also. He related an epidemic in 1887 among the sewer diggers, in Duluth as supporting this idea.

Dr. Speier, of Duluth, spoke of Dr. Vaughan of Ann Arbor, finding colonies of the bacillus typhosus in Duluth drinking water, and regards the recent epidemic as clearly traceable to sewage contaminated water.

It is rather discouraging for the new men to find the city so healthy.

Progress

Doctorate Address Delivered at Commencement Exercises, Milwaukee Medical College and School of Dentistry, March 24, 1896, by W. H. Neilson, M. D., Prof. of Principles and Practice of Medicine and Clinical Medicine.

In fulfilling a time-honored custom, it devolves upon me to offer a few thoughts and suggestions for your consideration. The task, if such it may be classed, I accepted not only as a duty but a pleasure. It is a pleasure to come before so brilliant an audience on an occasion fraught with so much happiness to these young men; an occasion so pregnant with possibilities to them; possibilities for weal or for woe, possibilities for a wide usefulness and consummate happiness or for everlasting misery and disgrace. And this leads us on to the thought, why should these ceremonies and this occasion hold so much for these young men? Is this not the season looked forward to since the very inception of the desire to pursue the arduous path which leads to the vantage point of a medical graduate? Have not all their energies been centered on the winning of the coveted prize? How hard the struggle none can know but they themselves and those who have toiled over the same route before them! Ah me! The weary hours, the aching eyes, the tired brain! Deal gently, dear lady, and you, kind sir, with the youthful medical man whom in dire necessity you have called to your aid. Take into account the weary days and nights spent that he might aid you. Know that in this halting disciple there are the possibilities of an Hippocrates, a Harvey, a Clarke. An encouraging word fitly spoken will be as "apples of gold in pictures of silver" to him.

To these young men and their fellow-graduates from other schools must the coming generation look for aid in their days of trouble, and to them must we look for help in advancing the great science which has for its object the relieving of human ills. How great then the possibilities bound up in this hour and how instinct with joy. What seeds of misery, mayhap, are folded in its narrow span. But of the possibilities of misery we will not think to-night, except as the salt which adds additional zest to the successes and joys which are in store for every honest workman in God's harvest field. "Behold the fields are white with the harvest," and these young men,

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strong and impetuous in their youth, are pressing on to bear the brunt of the heat and toil of the day, confident that when the eventide comes and the chill of the night of old age creeps into their blood, slowing its currents, they will rest with their garnered sheaves about them. Heaven grant that tares may find scant place in their sheaves but that pure wheat only be found there! We are all too apt to think that our present knowledge is all sufficient, that armored as we are we can give good battle from now on until the victor's wreath is ours. In this do we err, for without constant refurbishment will we soon find ourselves outdone and compelled to take the ignoble place of camp-followers in the grand army having work and progress inscribed on its banner. This armor, strong as it is, its links forged from the experiences of ages, fortified by the breastplate of good judgment and crowned by the helmet of modern discoveries, yet will have some vulnerable point. Though we possess the Tarn-kappe of the secret forces of nature, what boots it all if there be some spot unbathed in Dragon's fat? The spear of the enemy will find vital lodgment. The great question, then, is, how can we keep our armor invulnerable? Look to your banner for the answer: "Work and progress." Work that you may progress; progress that your work may yield satisfaction. These two are indissolubly bound; the one cannot exist without the other; and work without progress is an anomaly. Looking intently into the crystal of the past there is conjured up a long procession of earnest souls, all animated by some transfiguring purpose. We see them beset on all sides by the halt, the blind, all those in sore affliction and with these do they tarry to give of their helpfulness, and yet is their store increased thereby many fold; the miracle of the loaves and fishes repeated. And see, those who come after are more apt in giving aid because of the example of their predecessors. There has been progress made, and, as we gaze, we see that it is continuous; here and there broken perhaps, but caught up again until the past merges with the present, and we no longer need our crystal, but see, face to face, the consummation of the progress of the ages. Oh wondrous privilege, to be heirs to the wealth of the ages! The spirit of genius is upon man! He subordinates the forces of nature so that the veriest tyro in science might confound the old philosophers! The science of medicine has grown from a crude admixture of superstition and pseudo-science, with here and there a grain of truth, to its present proud place to the fore. And yet, there is scarcely accorded to the devotees of our art that recognition which should be, which must be, in time given to those who give the greatest part of their strength that others may live, that the sum total of human suffering may be lessened. For this lack of recognition we are in part to blame, for it is seldom that true worth fails in securing its proper recompense. While the rank and file of the profession is made up of men who are the peers of any, there are still some who by reason of insufficient training, an undue estimate of their own capacities and an inadequate idea of the responsibilities of the profession, bring discredit not only upon themselves, but upon the whole guild. Professions, like characters, are judged by their worst traits. The abounding good is lost sight of in contemplating the minimum evil; and so it has come to pass that unthinking people consider all physicians as sordid, heartless, altogether to be looked on with suspicion and their services of so little value that it is hardly worth while to pay for them. This order of things should not be, and it lies with us, and with you, young men, to change it. How can this be accomplished? There are essentials lying in our reach which can be made potent to bring about the desired result. And they are: increasing the requirements for graduation, and right living on the part of the graduate. The first is happily within our control, and, year by year, sees not only a better preliminary education required for entrance to our schools, but the terms of study are lengthened and increased. This naturally has resulted in shutting out a great many, who, of necessity, would have been detrimental to the profession as a body, but has worked no hardship on any one who was deserving. Still there is great room for improvement along this line. Let every young man who contemplates the study of medicine, feel that the best preliminary education is none too good, and let him endeavor to secure it, no matter what the seeming sacrifice. He will be more than repaid by the advantages secured. The second essential,

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right living on the part of the graduate, lies entirely with the individual, is a personal matter, and as such, needs to be approached with a certain amount of delicacy. Right living means the development of our physical, mental and spiritual faculties along those lines which lead towards perfection. Hampered as we are, we can only hope to approach perfection, but none the less should our ideal be high and yet not so high that we lose courage. It is necessary for poor humanity that its ideal should have some admixture of earthiness. I sometimes think that had the ancient Parthians directed their arrows at some object less remote than the moon they would have become equally proficient with their bows and derived infinitely more satisfaction. It is needless to say that the life of a physician should be pure, so above suspicion that the shafts of slander may fall blunted. It should be wholesome, well rounded, free from bias. There should be no room for deceit, for evil thinking, for vice. The physician should be an inspiration not only to the sick in body, but the sick in soul, and to be this he must be a true man, a gentleman always. Our lives should be so ordered "That when the summons comes * * * * * * we go not like the quarry slave at night scourged to his dungeon, but sustained and soothed by an unfaltering trust, approach our graves like one who wraps the drapery of his couch about him and lies down to pleasant dreams." So live that the world is better for our living in it. Let progress be our watchword. Progress it has been in the past and progress it shall be in the future, a progress limited only by our own finiteness, a finiteness which reaches up to the hand of Infinity.

Notes on Cases We Meet.

Pica Geophagia, Alletrophagia, Malacia, Mal-d'estomac or Dirt-eating in Children.

BY DR. SAUERHERRING, WAUSAU, WIS.

Read before the Northwestern Medical Association, April 14, 1896.

This troublesome complaint is brought to our notice at times, and very often we are at a loss as to how to proceed, as no certain lines of treatment can be laid down for the individual patients.

The nature and etiology constitute a very difficult question, still it seems but natural to class them as a minor psychosis, along with such bad habits as sucking the thumbs and fingers, or of the tongue, and masturbation in little children.

Dr. John Thompson lays down the following four indications: 1st. Keep the child away from the substances for which it has a morbid craving. All habits are strengthened by practice, and their hold weakens by disuse. 2d. Improve the condition of digestion. It seems more than likely that local uneasiness often plays some part in the etiology. 3d. Improve the general health. It is to the weakly that such cravings come, the strong readily throw them off. 4th. If possible, change the child's surroundings and take its mind up with new things and let it be kept happy and busy.

The cases all differ in variety and kind of articles craved. There may be but one or two particular substances, or the appetite may include any and everthing that can be procured. Notable is the fact that the variety is usually more limited in cachectic cases, than in the healthy when just beginning. In all cases a continuance of the habit leads to a disarrangement of the digestion, the patients very soon assuming a cachectic look, becoming pale, often an ashen color.

My experience has been limited to the two following cases: I report them because they illustrate the disease in a graphic manner showing the two extremes with concomitant effects on the general condition, both physically and mentally.

The first patient, Maggie —, was raised in a home where all the comforts of the well-to-do were to be found. About the time she began to walk, her mother noticed that she had an unmistakable desire for brown paper as an article of diet. Whenever this was carefully kept out of her reach she would fall back on pasteboard and charcoal.

She was a strong, healthy child, and the ingestion of the paper had no other noticeable effect on her than to render her bowels very constipated, they never moving unless an enema was used. Her mental development was such as you would want to look for in a child of her age, 3 years, and did not seem to suffer any. Her sleep was undisturbed, appetite very good. As happens in a great number of cases, no physician was consulted in this case for a long time, and the habit

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became so fixed that no amount of discipline, even to seclusion sufficed to break up the habit, the little patient always reverting to the articles mentioned even after having been kept away for a week or ten days. While calling on one of the other members of the family the mother appealed to me for aid. Several remedies were tried in vain and I took a medical friend visiting me to see the little patient. He suggested chewing gum; it worked like a charm.

In case two, we also find the environments such as are found in the homes of the well-to-do. The patient here was a female child, aged 2 years and 6 months. She began this habit of eating dirt when about 1 year of age. At that time she was a strong, healthy child, well-nourished. Present condition: Very emaciated, muddy color, anæmic, no appetite, tongue coated, breath foul, stools irregular, loose, without odor, their color varying from dirty white to dark yellow.

She had eaten everything obtainable, from dust sweepings to ashes and coals, but lately had shown a special preference for the soft clay that would adhere to footwear as the wearer would walk along the street, it being in the spring of the year. The parents had at different times sought medical advice but up to the present without success.

My treatment consisted in placing the child on powders containing plv. rhei, ¼ gr.; sodæ bicarb., ½ gr., and charcoal, 1 gr; these to be repeated every four or six hours. In addition to this I prescribed 2 drops of Fowler's Solution, to be given three times a day in a few drops of water. Fastened in a high chair out of reach of temptation she soon developed an appetite for normal foods, her general health improved and she presents now, ten months after beginning of treatment, an appearance entirely in keep with her surroundings.

Notable in the latter case was the seeming arrest of mental development. At the time I first saw her the parents wished to know if the child would always be an idiot. Her eyes at this time had the glassy expression found in those unfortunates, she paid little or no attention to her surroundings, pushed herself along the floor with a gliding motion, and very seldom attempted to walk. The latter may have been due to weakness, as the emaciation was extreme, but the other symptoms can, in my opinion, not all be due to this. After being assured that her mental condition was of the average before contracting this habit, I made a good prognosis. With the return to the normal her mental progress kept in line with the physical and she entirely recovered.

Several months ago I was called in consultation to an obstetric case. The patient, a strong, healthy wife, of about 40 years of age, mother of seven children, and about to be confined with the eighth, had passed through five convulsive seizures, and was taken with the sixth, as I entered the house.

Chloroform was at once administered until the convulsions ceased. From the attending physician I learned that he had been called at about 6 o'clock in the afternoon shortly after the first convulsive seizure began. Injecting ½ a grain of sulph. of morphia, he immediately despatched a messenger to call me. It was fully thirty miles to my office, and although I started immediately it was nearly midnight when I reached the bedside.

Upon making a digital examination I found the cervix soft, os patulous, dilated sufficiently to admit the tip of the index finger. Close inquiry revealed the fact that she considered herself about eight months pregnant, and had discussed the coming event a few days previous, with her husband. As there was no swelling of the limbs and no history of any renal trouble, her previous health having been excellent, a hasty consultation was held as to the best course to pursue. Delivery was decided upon, and forcible dilatation with the hand was made. Grasping a foot I endeavored to perform version, and make a quick delivery but found it impossible, and that, too, with the head still unengaged. There was some obstruction that frustrated my efforts in this direction, so having my colleagues steady the head by external manipulation, I applied the forceps and delivered a living male child.

Chloroform was then withdrawn and the afterbirth delivered by Crede's method. The pain of this procedure did not awaken the mother, and after waiting some time for her to recover from the effects of the anæsthetic, we found her to be semi-comatose. Shaking her severely and using as a counter-irritant a few pins, we after awhile

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succeeded in having her make a few voluntary movements, the first of which consisted in a violent fit of blows right and left, accompanied by imprecations against her husband and accusing him of sticking her with the pins. After being left alone she soon again dropped into a condition from which she could with difficulty be aroused. A large dose of calomel was now administed and as her pulse was good, beating 78 per minute, I retired to get a few hours rest. At 6 o'clock in the morning she was quite bright. Her bowels had moved at about 5 A. M. and she had also passed a fair quantity of urine. Her recovery from this time on was uneventful.

I have, during my practice, witnessed uræmic seizures as they occur in pregnant women, but have never seen one where the manifestations of any disturbance in any of the organs presented so few outward signs as in this case. The urine was examined in the morning by partially filling a bottle and immersing it in a vessel in which water was boiling for a space of ten minutes. There was no acid to be had to apply the test, but the cloudiness of the urine after boiling was not sufficient to lead me to judge that a large amount of albumen was present. Besides the patient claimed to have passed the average quantity every day, also the day preceding the confinement.

Thomas H—, was brought to the hospital on the 21st day of February, having been injured by a log falling and striking him on the shoulder. The blow was not direct, but slanting, spending the force of its impact near the upper end of the humerus a little below the acremion process of the shoulder. After administering an anæsthetic a fracture of the humerus at the anatomical neck was found. The head of the bone in its detached condition could be pushed forward sufficiently until the flat surface at the line of fracture could be distinctly felt. The arm was now dressed in the following manner.

The hand of the injured member is carried over onto the uninjured shoulder, then by holding the upper end of the humerus firmly in place and in close contact with the separated head, the elbow is pushed forward and upward until the hand extends above the opposite shoulder, bringing the wrist of the injured arm into close contact with the sternal end of the clavicle. It is fastened in this position by means of a broad strip of rubber adhesive plaster, passing from the uninjured shoulder downwards, around the elbow, up over the injured shoulder, across the back and several times around the body, thereby fastening the arm in such a manner as to render it immovable. Over the whole an ordinary bandage is applied.

This is the third fracture of this kind that I have been called upon to treat, and I am pleased to be able to state that the result has been pleasing in the other two cases and I have no doubt will prove so in this. One of the cases, where I was called in counsel, and where the injured man was a member of our militia company, he was able to resume his place in his company and to go through the manual of arms as well as before, finding difficulty only in the execution of one movement, and that of extending the injured arm directly upwards.

On account of the long-continued pressure of the adhesive plaster on the olecranon process at the tip of the elbow, sloughing off the skin at this point usually takes place. It has been my custom not to change the dressing for the first three weeks, as it is very important to keep the arm in this position for that length of time, so that the sloughing took place in all my cases, still as they readily healed in about two weeks after removal of the bandage, it has not been deemed advisable to pad the elbow, it having been found very difficult to retain the bandage satisfactorily when the latter was used. As the pain is always excessive, large doses of opium are required during the first week to allay the same, and to keep the patient from making any attempts to remove the bandage. The extreme pain is undoubtedly due to keeping the arm in the constrained position for such a long time.

On the 28th of February, Herman B—, was brought to the hospital, having sustained a severe scalp wound while mixed up in a runaway. It seems that he was forcibly thrown from the wagon while the horse was running at great speed, striking the frozen ground, in a slanting direction, with his head, resulting in a scalp wound extending from the eyebrow upwards and backwards over the cranium, about one and one-half inches

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to the left of the median line, to the occipito-parietal suture. The blow did not stun him, as he walked to his employer's place of business, three blocks distant. After anæsthetizing the patient it was found that the scalp had been loosened so it could be tipped sideways and folded over the ear, exposing about one-third of the temporal muscle. The periosteum had been stripped from the parietal bone and was found in a roll at the temporo-parietal junction. Sand and gravel had been so thoroughly mixed with it that it was deemed advisable to remove it as the foreign substances could not be washed away. The edges were trimmed smooth, a drainage tube extending the entire length of the wound and projecting at both ends inserted, and the margins brought together by means of silk sutures.

On changing the dressings on the fourth day it was noticed that primary union would take place from anterior extremity to the fronto-parietal suture. About one inch above this, a piece of the scalp about as large as half a silver dollar, had the appearance of dead tissue, also a second place three-quarters of an inch farther back, presenting the same appearance. The wound was irrigated with a corrosive sublimate solution and moist antiseptic dressings applied. This was repeated every day, and on the seventh day, the line of demarcation began to appear. A piece of scalp as large as a half silver dollar was removed in each of the places indicated. There had been a great many shreds of tissue which were not removed on the first dressings as the man took the anæsthetic badly, so very free suppuaration took place for a few days.

Irrigations with a sublimate solution, 1 in 4000, were made two and three times a day until the discharge ceased. We had now two circular spots, separated by a half-inch strip of scalp, each one and one-half inch in diameter, with the bone denuded of periosteum, the surrounding portions of scalp not as yet possessing sufficient vitality to warrant a flap operation, with bone exposed to necrosis. Dressings moistened with a one per cent. solution of creolin, were now applied and the bone closely inspected every day for signs of necrosis. In about two weeks the granulations from the margins of the anterior wound had progressed so favorably that it became apparent that the exposed surface would be covered before any destructive process would begin. Not so with the second opening. Here it was noticed that the bone became porous and slight elevations appeared (this was in the middle of the fourth week from date of accident), resembling granulations in appearance. Stimulating the margins of the wound with nitrate of silver soon induced granulations from there, and at the end of the fifth week it was apparent that all danger from necrosis had passed, as a firm covering had formed over the exposed surface.

The resulting scar will not be a thing of beauty, and appearances might have been improved by a semi-circular flap transplantation, which, however, was impossible until now, as the superficial layers of the scalp had been torn and scraped away by the force of the impact for a space of one and one-half inches on each side of the wound.

As the patient is an unmarried man and gravely assures me that he has long ago surrendered all ideas of ever becoming a benedict, he prefers to pass through life in his present condition rather than to submit to an operation for cosmetic effect only.

Leucocytosis in Pneumonia.

Petroff, who has made a special study of this subject, concludes that leucocytosis is augmented in all cases of croupous pneumonia, being from two to four times greater than normal. The increase begins with the disease, reaching its maximum at the crisis or sooner, and disappearing by crisis or lysis, thus corresponding with the course of the temperature. There is, apparently, a direct connection between the intensity of the inflammation and the degree of leucocytosis. In feeble individuals the leucocytosis is less marked, while in fatal cases it may be present or absent, depending on the strength of the patient and the extent and severity of the disease. The degree of leucocytosis may serve as a guide in the prognosis, as does the constitution and nutrition of the patient and severity of the affection—*Inaugural Dissertation*, St. Petersburg, 1895.

If the present street railway strike lasts much longer there will be still less to do, for pedestrianism predisposes to health.

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Translations.

Extraction of Cerumen Plugs From the Auditory Canal.

In the very beginning a capital recommendation upon which insist, the absolute proscription of any instrument such as forceps, stylets, etc., in the removal of cerumen. The physician not familiar with otological technique, would expose himself by withdrawing it in that manner to (1st) wounding the canal and cause an eruption of furuncles even if the instrument were sterile (the cerumen contains an innumerable multitude of pathogenic microbes which would infect the wound thus produced; (2d) injure the tympanum and provoke grave accidents, hemorrhages, deafness, vertigo.

He will simply employ: 1st, a syringe, sterilizable as much as possible, well in hand, and for that purpose provided with three rings, holding about 100 grammes, which will prevent frequent recharging. Its extremity must be very fine, regularly cylindrical or lightly conical, but not ovoid. Finally, it will be prudent to guard the syringe with a soft, rubber tube, of a centimetre in length, to avoid wounding the conduit; 2d, boiled water at 37°C. In this respect a little account must be taken of the patient's susceptibility, who may prefer it a little warmer or cooler.

The syringe being filled, the air bubbles are driven out, which, if forced into the auditory canal, would cause very disagreeable bubbling sounds in the ear.

How shall the injection be made? The patient sitting, the shoulder will be protected by some cloth or towel, to avoid soiling his clothing, he will himself hold the basin under the diseased ear, and slightly incline the head toward the affected side. Whichever be the affected side to irrigate, the physician will draw the pavilion upward with the left hand; with the right hand he will direct the syringe-point, not perpendicularly to the center of the plug which would force it further in, but along the superior wall of the conduit, so that by return *choc* the water gradually forces the plug from within outwards. The first drops will be injected with the greatest care and gentleness, and immediately ask the patient whether he feels dizzy or pain. If not, he will continue a little more forcible, but not too violently, for vertigo is always to be feared, it should never be produced even passively for it is dangerous. Nevertheless, if it has been produced, request the patient to shut his eyes so as not to see the objects move around him; if it is severe, let him inhale ether; let him lie down; extended; let the window be opened, etc.

If no incident happens inject five or six full syringes of the liquid.

Are there cases in which the plug does not yield? What to do? Shall the syringing be done more forcibly? No; that might be dangerous; (*a*) for the mechanical irritation can injure the canal; (*b*) the traumatism thus produced might be propagated to the middle or internal ear and cause serious symptoms; (*c*) lastly, the plug may adhere to the tympanum and, by violently detaching it, a hemorrhage from the membrane may result.

Let the plug be softened. The physician will prescribe the following solution:

Carbonate soda,	1 gramme.	
Glycerine, Water, āā	20 "	M.

Thrice daily let the patient heat ten drops of this solution in a teaspoon, and then pour them into the ear: he will keep the head inclined toward the healthy side for about ten minutes, and during the interval between these installations he will place a cotton tampon into the opening of the canal.

You must not forget to warn the patient that under the influence of this mixture the plug will swell; that he will not be afraid if a little deafness, or buzzing, or even some vertigo develop for the present—all these troubles will disappear after exit of the cerumen plug.

After about forty-eight hours, new injections may be tried; if the plug still sits too firmly resume the instillations during two days. Finally, (*a*) the plug comes *en masse*, but sometimes it is wedged into the meatus and then it can be removed by forceps; (*b*) only detritus flows out, then syringe until the water comes back clear.

After extraction the ear must be well dried, the pavilion carefully wiped with a soft cloth. Let the patient incline the head toward the affected side, and introduce into the meatus the index cov-

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ered with a linen cloth to thoroughly dry the canal; a tampon of absorbent cotton introduced into the conduit will absorb the moisture in a few moments.

To finish the dressings, put a tampon of absorbent cotton into the meatus and let it remain there for several days. It must not be put too deep into the canal, for in contact with the membrana tympani it might cause buzzing noises or vertigo. The object of this dressing is to serve several purposes; the sudden onset of cold air in the *de* obstructed canal, might, especially in winter, provoke an external otitis; (*b*) the sounds suddenly reaching the tympanum suddenly uncovered may cause pain. So long as this auditory hyperasthesia lasts, the patient must wear the cotton tampon.—*Laurens, in Presse Medicale*, 22 Feb'y, 1896; *L'Independence Medicale*, 1896, p. 75. W., *Tr.*

A Unique Case of Traumatic Aneurysm.

An old sergeant of the Netherland Army, aged 52 years, in good health, without lues and never excesses of alcohol, but abusing tobacco, slipped in the street in the month of January, 1891, and struck violently on his chest. He at once felt a violent pain in the region of the left shoulder, but which ceased after a short treatment.

A short time afterwards the patient had a pain in the back between the shoulderblades, while a circumscribed redness developed over the sternum.

Little by little a pulsatile tumor in every sense showed itself, growing continuously. At the end of three years, this tumor had attained a height of nine and one-half centimetres and a circumference of twenty-eight centimetres. It took the form of a sharp cone whose point had a bluish color.

The tumor was immediately beneath the skin—the subcutaneous cellular tissues has completely disappeared; its pulsations, readily seen, are synchronous with the pulse. The pulse of the two radials is normal. The cardiac sounds are distinct. The patient has no pain and was able to make the journey from La Haye to Amsterdam. (Four photographic illustrations elucidate the text.)—*Berl. Klin. Wochenschr.*, 20 Jan., 1896; *L'Independence Medicale*, 1896, p. 37.

H. P. W., *Tr.*

Incomplete Rupture of the Cæcum Resulting From a Contusion of the Abdomen.

The large intestine is not very often affected in contusions of the abdomen; and incomplete ruptures are rarities of which but few examples are offered clinically. This rarity and the fortunate result of the intervention give a special interest to the following fact reported by *Guelliot*, of Reims. A child of twelve years, stood upright on a chair, when, the latter falling over, he fell on the back of the chair, with the right flank.

A moment later he urinated blood, and a short time after this, passed clots and liquid blood from the anus. Hematuria was reproduced during the night; micturition is normal as to frequency and force; diagnosis of contusion of kidney seems to result. There is no lumbar tumefaction; but the whole right half of the belly is painful, and within the antero-supero-iliac spine, is noted a bogginess and light diminution of sonority. The child vomited (non-sanguinolent) after the accident, but it soon stopped.

He does not seem worse next day; temperature from 38.6° to 39° C.; he passed 500 grammes of thick, murky urine, but no trace of blood; the bogginess did not extend further.

The day following, the temperature reached 39° in the morning; the urine is murky and scant. Pain considerably increased, the belly tympanitic and painful even to the simple pressure of the coverlets; he lies doubled up on the right side; flatness in the cæcal region more marked. M. Guelliot immediately makes a lateral laparotomy.

A long incision within the iliac spine permits, after opening the peritoneum, which is yellowish, to see a mass of a darkish red—the cæcum. Examining the latter it is noted that the red coloration extends only over half of its postero-external circumference and over the adajacent peritoneum; on the contrary, the whole internal part, *i. e.*, looking toward the abdominal cavity, has its normal grey color. The bloody infiltration rises under the peritoneum upward just beyond the incision.

At three finger breadths from the extremity of the cæcum, an effusion of black blood forms a transverse bosse, which raises the peritoneum. It seems that the deeper tunics no longer exist here.

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A Lembert catgut suture unites from above downwards the healthy parts and support the intestinal wall. Lower down is found a more important lesion. At the ampulla, outside of and behind the appendix which is immobilized, and over a surface of about two centimetres in extent, oval, with long axis vertical, the cæcal wall is found constituted by the serous membrane only; in depressing the latter the finger is buried into the ampulla. Without cutting the peritoneum a Lembert suture is placed by utilizing the appendix to reconstruct the intestinal wall and in invaginating the whole injured part longitudinally. After washing with boric acid solution, the belly is closed by a triple suture. Although hematuria had ceased it was deemed useful to continue the cutaneous incision backward and upward to explore the renal region. The renal couch is intact, in front "boucles" the peritoneum, dark red, almost black in color; here a small drain was left.

The patient recovered completely without any other incident than an œdema of the right leg.—*Union Med. du Nord-Est; Le Bul. Med.*, 1895, p. 1111. H. P. W., *Tr.*

A Case of Partial Subcutaneous Emphysema During Expulsion in Labor.

These cases are quite rare; but now and then they will suddenly and unexpectedly develop without any apparent cause. M. Macé, reported the following case at the meeting of the *Societe Obstetricale et Gynecologique de Paris*, on January 9, 1896:

The woman, a primipara, 22 years of age, who, during an expulsive pain, suddenly felt a violent stitch, a little within and below the left breast. At once was observed at this seat of pain, emphysema to the neck, left cheek and anterior part of the left thorax. Respiration was 36 to 44 per minute, the pulse, regular, 100; the patient complains of a very acute sensation of constriction. Forceps were immediately applied. Child alive, weighs 3.520 grammes. The emphysema gradually disappeared during the following days; not a trace being left on the sixth after labor.

Subcutaneous emphysema is a rare complication of labor, almost always manifesting itself during an expulsive effort.

It is generally due to rupture of pulmonary vessels. In the case observed by Macé, he believes the point of rupture took place at the seat of pain indicated by the patient; the air passed under the visceral pleura, reaching thus the mediastium and from there to the neck, from that the origin of the dyspnœa, which she felt immediately, and the number of inspirations which rose from 36 to 44 and were maintained there.—*Gaz. Med. de Paris*, 1896, 4, 46.

W., *Tr.*

Paravaginal Hæmatocele Consecutive to a Puncture for Hydrocele.

M. Lemichez reported the following case at a meeting of the *Societe anatomo-clinique de Lille:*

A man of 30 years, submits to puncture for hydrocele which removes 1000 to 1200 grammes of liquid. At the moment of puncture severe pain was felt which lasted several hours. And from the trocar wound a hemorrhage troublesome, abundant and difficult to arrest.

Next day the scrotum is blackish in color and enormous in size; measuring 47 centimetres in circumference, 16 centimetres in height and 13 in breadth. The black discoloration extends to the inferior part of the abdomen, to the upper part of the internal face of the thigh and to the skin of the penis.

The patient enters the service of M. Duret, who discovers two pockets in each scrotal half; one situated inferiorly and posteriorly, constituted by the vaginalis and containing the testicle and liquid. The other pocket, larger, is placed in front and above, and is independent.

By incision it was demonstrated that the first pocket formed between the vaginalis and fibrous layer; 500 grammes of blood clots were withdrawn; in the vaginalis 100 grammes of unclotted blood was found.

There existed an inversion of the testicle, instead of being situated below and behind, the place of election in hydrocele, it occupied an anterior and inferior position. During the puncture the trocar had gazed the head of the epididymis and wounded one of the many vessels abounding there.—*Bull. Med.*, 1896, 6, 68.

H. P. W., *Tr.*

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Sudden Death in Chlorosis.

Hayem reports the following unique case to *Societe Medicale des Hopiteaux*, March 13th, 1896 :

Februrry 4th, 1896, a young girl suffering from chlorosis, entered my service. On the 14th of February, resulting from severe emotion, she rose up in bed, cried out, fell back and died within a minute.

In 1894, she had had a phlegmasia of the left leg, which continued to pain her. In 1895, palpitations and anguishing dyspnœa. In 1896, headaches, palpitations, but never hemoptysis; on auscultation of the heart, was found a bruit, now like a friction and again like a *bruit de galop*.

At the autopsy the pulmonary artery was found completely obliterated by blood coagulations, some of them old and adherent to the walls, the others smooth, of friable granulations; in the bronchi existed prolongations of cruoric clots.

It was not a venous embolism, but a coagulum whose point of departure was in the heart. The heart was small; the aorta chlorotic. In the right heart were two kinds of coagula, some small, sessile, the others larger like a bell-clapper, whose adherent part was organized and incrusted with calcareous salts.—*La Tribune Medicale*, 1896, 12, pp. 237-8. W. *Tr.*

Tumor of Vertebral Column.

The following very curious observation is related by Oppenheim (Berlin *Klin. Wochenschr.*, 1895, 47): A child 3 years of age, who, a few months previously had had not a very severe attack of measles, began to complain of weakness in the right arm. About the same time the mother observed that he scarcely used the right arm and that the pupil and palperbral fissure of the right side appeared narrower than on the left side. A few weeks later the paralysis first invaded the right lower extremity, then the left; when the paralysis was complete, the appearance of vesical trouble was also noted.

At this time the author saw the patient. He found all the signs described by the mother. The paralysis of the right upper extremity presented this peculiarity, that it was localized in the hand and fingers and had brought on the position of "*main en griffe*," with atrophy of the small muscles—thenar and hypothenar eminences, interossei, etc., the movements of the elbow and shoulder were almost normal and free. The paraplegia was complete, spasmodic, with considerable exaggeration of the tendon muscle and cutaneous reflexes. The contraction of the left pupil and palpebral orifice was very marked, the fundus of eye normal. The vertebral column was not deformed, nor painful on pressure. A well developed venous *lacis* covered the upper right member.

The progress of the symptoms and their combination made the diagnosis comparatively easy. The presence of Klumpke's syndrome (oculo-pupilary phenomena) indicated that the process involved the eighth cervical and first dorsal roots; the ulterior appearance of the paraplegia and other troubles led to admit that the spinal cord had been secondarily invaded; in fine, the symptom course indicated that the signs observed could result only from a neoplasm of either the vertebral column or dura mater, or of the vicinous parts, with secondary invasion of the vertebral column and the cord.

Hence the author made his diagnosis—neoplasm of the cervical column—and prepared to operate on the patient. Consent was not obtained until three months later, but on the day he entered the hospital, service of Prof. Bergmann, he contracted an infectious pneumonia and died the following day.

Autopsy confirmed the clinical diagnosis; but the specimen having been placed in alcohol by mistake the histological examination could not be made. On autopsy was found notably a sarcoma of the lower cervical column. Laterally the tumor exceeded the transverse processes of the vertebræ, had invaded the muscles and descended to the clavicle; it had penetrated into the subclavian of the superior vena cava. On the macerated piece it could still be established that the sarcoma sat on the right side of the seventh cervical and first dorsal, had completely (eroded) eaten away the seventh cervical and that way penetrated into the vertebral canal. On the left side the roots were still relatively well preserved, but on the right they were flattened by the tumor and like ribbons adhered to the cord.—*La Tribune Medicale*, 1896, 3, p. 45. H. P. W.

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MILWAUKEE MEDICAL JOURNAL.

A Monthly Journal of Medicine and Surgery.

Contributions are respectfully solicited from members of the profession, in good standing, in all parts of the world. All original articles when written exclusively for the JOURNAL will, upon publication, be paid for in reprints or in extra copies of the JOURNAL. Authors desiring their articles illustrated must furnish drawings or photographs from which the illustrations will be made without further cost to the contributor. Address all matters for publication or review to the editors,

W. H. EARLES, M. D.
W. H. NEILSON, M. D.

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MILWAUKEE, WIS., JUNE, 1896.

Semi-Centennial Meeting of Wisconsin State Medical Society.

The Wisconsin State Medical Society held its Semi-Centennial Session at Madison, June 3, 4, 5, and 6. This meeting, inasmuch as it was to mark the fiftieth year of its existence, was deemed best to be entirely devoted to the consideration of hygiene and prophylaxis. With this end in view a great many papers were prepared, and the result will be a ready reference work in condensed form of all matters from the care of our homes and schools, our cities, villages and farms to our personal hygiene. By this system of collaboration will be furnished, through a number of short articles, a synopsis of all that is written upon the subject, together with such comments as are the result of personal observation and judgment. Thus has a great work been accomplished, to which each individual essayist has contributed his mite.

The meeting was unique from the fact that the feature of discussion, so characteristic of previous meetings, was almost entirely lacking. This was accounted for by the lack of time, and perhaps, too, from the fact that each one was posted only on his individual subject. Nevertheless, it was very successful. The attendance was quite large and, despite the warm weather, every one seemed to thoroughly enjoy himself. Two or three gentle men, we understand, "sweat a little profusely beneath the collar," and had to be called to order, but the warmth of the forenoon and too frequent libations of Buffalo Lithia Water, together with Johann Hoff's Malt Extract were doubtless accountable. When we appeared on the scene at 11:30 A. M. everything was serene, with only here and there a slight ebulition to indicate that there had been any disturbance—very like the bubbles which arise for a time after a stone has been dropped into a frog pond. There were a great many new men in attendance, so that the appearance of the throng was considerably changed, though here and there stood out strong and familiar the faces of such old war-horses as Reynolds, Whiting, Marks and Meacher, who have attended the meetings with regularity these many years.

A resolution by Dr. Seaman, aimed at indirect advertising, was introduced and provoked considerable discussion. It is intended that the Society shall commit itself and no longer wink at the appearance of newspaper interviews, carefully prepared for the occasion. While the JOURNAL is positively opposed to such reports and interviews which savor so strongly of quackery, yet it must be remembered that many a report gets into print of which the interested physician is absolutely guiltless. This is a misfortune, as invariably his brother physicians shrug their shoulders. It seems, however, to be the privilege of those who are already high up the ladder of fame to enjoy the notoriety of newspaper interviews. Dr. Y. in a back street who is struggling to make the necessities of life is censured, if his name appear in the paper through the too zealous efforts of a grateful patient, while the great Dr. X., whose office on a prominent corner is crowded with patients, can have the minutest details of an operation he has performed heralded over the length and breadth of the land, and no one objects.

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This is manifestly unfair to Dr. Y. But if Dr. Y. is wrong, certainly Dr. X. is more so, for he has not the shadow of an excuse. It is to be hoped that this movement will clearly define the status of advertising, so that we shall know just "where we are at."

Professor Mitchell, State Chemist and Professor of Chemistry in Milwaukee Medical College, favored the gathering with an illustrated lecture on the chemical tests for impurities of water, while Professor Van Hise, of the geological department of our State University, lectured on the boring and digging of wells, illustrating by chart and map in which areas pure water could be had by either method. Dr. Macks' lecture on sewage disposal was very clear and well received. Colonel Hollister, representing the Pharmaceutical Association, brought greetings in a graceful speech. The exhibit of books, instruments and pharmaceutical products was unusually good, but none of the stands enjoyed such patronage as did the Lithia water man. We hope he will come again, as his sparkling is very grateful on a warm day, and was given out without stint.

The election of officers resulted in the choice of Dr. Reynolds, of Lake Geneva, who has the honor of being a member for forty years, for president; Dr. Wm. Mackie, first vice-president, and Dr. Margaret Caldwell, of Waukesha, second vice-president. The old secretary and treasurer, Drs. Sheldon and Hall, were re-elected. There was very little electioneering, and the choice for president was the result of a spontaneous and general desire to do honor to one who has long done the society honor by being a member of it.

After the retiring president's address, the meeting was adjourned for one year, the place of meeting to be Racine.

The social portion of the programme was all that could be desired. Many of the doctors brought their wives and daughters, and these, together with the lady physicians, lent a charm and grace to the dignity of the proceedings, and aided very materially in enhancing the pleasure of the occasion. An experience of unalloyed delight is a trip under any circumstances on Lake Monona in the gloaming, but when in superb company with such mirth provoking spirits as Hill and Sheldon, with music and college songs, the hours wing themselves away all too quickly, and we are aroused from our enchantment with a sense of regret by the bumping of the steamer's side against the dock as the last strains of "Farewell, Ladies," float over the water, carrying with them a host of reminiscences of college days.

The banquet held in the Library building was very largely attended, and aside from the good things provided by the ladies of Presbyterian Church, there was an abundance of music furnished by the University Mandolin and Glee Clubs. After the dinner the time was charmingly taken up by the responses to the toasts, and altogether a famous good time was had.

The following is a list of the speakers and toasts:

I. THE WISCONSIN STATE MEDICAL SOCIETY—Dr. Frank W. Epley, President of the Society.
II. WISCONSIN, FORWARD—Gov. W. H. Upham.
III. THE CLERGYMAN AND THE PHYSICIAN—Rev. E. G. Updike.
IV. DOCTORS AND PRINTER'S INK—A. P. Wilder.
V. STATE BOARD OF HEALTH AND THE STATE MEDICAL SOCIETY—Dr. U. O. B. Wingate, Secretary State Board of Health.
VI. THE WISCONSIN STATE MEDICAL SOCIETY—BIOGRAPHICAL AND HISTORICAL—Dr. J. B. Whiting.
VII. THE BENEFICENT MISSION OF THE MEDICAL PROFESSION—Rev. Father Naughtin.
VIII. THE STATE UNIVERSITY AND MEDICAL EDUCATION—President C. K. Adams.

A number of physicians availed themselves of an invitation to visit the State Insane Asylum, where every provision was made for their entertainment and comfort; while a tally-ho trip about the town gave a hilarious time to others. But business and trains wait for no man, and soon the crowd separated for their homes, the better for the few days outing.

COMMUNICATION.

MR. EDITOR: Believing a medical journal to be the product not only of the editorial mind but the receptacle into which should flow all medical thought of the profession-at-large, I will trouble you with the following thoughts. It may, perhaps, be a hobby of mine (and we all have them) but it has grown on me the more I have thought over the matter, that the doses of medicine we give, as corrective agents, in troubles of the digestive

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organs are *absurdly* and ridiculously small and inadequate. Fancy the large extent of secretory surface of the stomach and that in hypersecretion or (deficient secretion) the amount must be quite large or small in the whole, you will perceive the force of my argument. It has, therefore, struck me that in hypersecretion of acid (hyperacidity) what we do is to prescribe 5-15 drops of a dilute acid before meals or a couple of grains of an alkali after meals must be inadequate—a mere drop in the bucket. I fancy that to counteract the evil we should rather give 3i-3ii of dilute acid, in say, half a tumblerful of water, and that should be taken hourly for three hours before each meal. The same applies to giving pepsine and pancreatin when those peptonizing agents are supposed to be deficient in the digestive organs. It is true, through extracts and use of active principles, we, as a profession, have gradually come to using smaller doses than in olden times, being accused even at times of becoming homeopathic, yet, here I believe the other extreme has unwittingly been the system. But this may be only a hobby of mine. Does it bear inspection?

Now, I will give you another thought of which I am not so positive, a theory which has been revolving in my mind during leisure moments and which I give you more as a "query" in order it may be tried, and if found wanting, so reported in your worthy journal. It is this: Why should not the seton be useful in the cure of hydrocele? You know that after drainage of the sac the injection of iodine or carbolic acid or a mixture of the two is not always successful. And why? Simply, I believe, because before the agglutinizing or healing effect of the inflammatory action of the injection takes place or even begins to have any perceptible effect, a couple of hours must elapse. What takes place in the meantime? Does not the sac go on secreting "tears of liquid," enough to counteract the healing effect of the injection? I believe it does. The seton introduced properly in the most dependent part of the sac would continuously drain this fluid and prevent its accumulation. Though your correspondent has not tried it in hydrocele, he has tried it successfully in large bursæ. The patient experienced no pain, went about his work, and yet there was solid union of the walls of the sac. The conditions being the same, why should it not be successful in hydrocele? Certainly worth trying and reporting. Having no case on hand myself, perhaps some one will try it and report. I have an idea the seton alone might cure without the additional pain of an injection—however, only a fair trial will show. The seton could, I fancy, be readily introduced through the canula of a trocar plunged into and completely across the sac to emerge at both ends through the integuments and the trocar then withdrawn. Respectfully,

G. S.

P. S.—After writing the article on the use of the seton in cure of hydrocele, I have looked up Erickson and find he speaks of its use, but on the whole, discountenances it. Still I believe in many cases, especially where of not too large a size, it would aid a complete cure by obliterating the sac more readily by draining accumulating fluid (as already stated in my article). G. S.

Book Review.

SKIN Grafting and Transplantation of Flaps; a Consideration of the Various Methods—Report of a case. By E. J. Mellish, M. D., Chicago.

THE Pathfinders. An address delivered to the Graduating Class, '96, of the Barnes Medical College. By James T. Jelks, M. D., Hot Springs, Ark.

NEURITIS Complicating Dislocation of the Shoulder and Elbow. By M. A. Veeder, M. D., Lyons, N. Y.

POMPEIN Surgery and Surgical Instrument. By. N. Senn, M. D., Ph. D., S. S. D., Chicago, Ill.

THE Indications and Modes of Drainage After Abdominal and Vaginal Section. By Nicholas Senn, Chicago, Ill.

INFLUENCE of the General Nutrition upon the Course of Ophthalmia in New Born. By H. V. Würdemann, M. D., Milwaukee.

THE Prostate. By S. B. Bangs, M. D., New York.

THE Treatment of Dipsomania and Morphiamania by Hypnotism. By Thos. B. Keyes, M. D., of Chicago.

TREATMENT of Typhoid Fever by Woodbridge Method.

ALBUMINURIC Retinitis in Pregnancy. By H. V. Würdemann, M. D., Milwaukee.

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News and Miscellany.

DR. CHARLES A. L. REED, of Cincinnati, has been selected by the European Committee on organization of the International Periodical Congress of Gynecology and Obstetrics, as Honorary President of the meeting of that body, to be held in the City of Geneva, Switzerland, the first week in September of this year.

The Second Pan-American Medical Congress.

The Committee on Organization of the Second Pan-American Medical Congress has elected Dr. Manuel Carmona y Valle, President, Dr. Rafael Lavista, Vice-President, and Dr. Eduardo Liceaga, Secretary, and has announced November 16, 17, 18, 19, 1896, as the date of the meeting to be held in the City of Mexico.

The most cordial invitation is extended to the medical profession of the United States to attend and participate in the meeting.

Titles of papers to be read should be sent at the earliest practicable date to Dr. Eduardo Liceaga, Calle de San Andres num 4, Ciudad de Mexico D. F. Republica Mexicana.

The date selected is in the midst of the delightful midwinter season when the climate of Mexico is the most attractive to the northern visitor.

The occasion should stimulate the medical profession of the United States to a most cordial reciprocation of the generous patronage accorded the Washington meeting of the Congress by our Mexican confreres.

It should be remembered that the United States is the largest and in many regards the most important of the American countries and that as a consequence more is expected of it than of any other occidental nation. In no particular is this more true than in the maintenance of position in the realm or scientific medicine on the Western Hemisphere. It is, therefore, simply essential that in this Congress—the most important of all medical congresses, in its exclusive, yet broad, American significance—the best thought and the best work of the American profession shall be conspicuous in the proceedings.

The zeal and enthusiasm of the Mexican profession and the active interest of the Mexican Government are co-operating to make the second Pan-American Medical Congress attractive, important and memorable.

Those who contemplate attending should send their names and addresses at as early a date as possible to Dr. Charles A. L. Reed, St. Leger Place, Cincinnati, that the Committee in Mexico may be advised of the probable attendance.

WILLIAM PEPPER,
Ex-officio President.
A. M. OWEN,
A. VANDER VEER,
CHARLES A. L. REED,
Ex-officio Secretary.
INTERNATIONAL EXECUTIVE COMMITTEE FOR THE UNITED STATES.

Vacancies in the Medical Corps of the U. S. Army.

There are at present three vacancies in the medical corps of the U. S. army, and it is expected that at least three more will occur during the present year. As usual, an army medical board will meet in Washington early in October for the examination of candidates. The requirements for admission to the medical corps are stated in a circular issued by the surgeon general of the army, dated May 21, 1896, and approved by the secretary of war, as follows:

"Permission to appear before the board is obtained by letter to the secretary of war, which must be in the handwriting of the applicant, giving the date and place of his birth and the place and state of which he is a permanent resident, and inclosing certificates, based on personal acquaintance, from at least two reputable persons, as to his citizenship, character and habits. The candidate must be a citizen of the United States, between twenty-two and twenty-nine years old, of sound health and good character, and a graduate of some regular medical college, in evidence of which his diploma will be submitted to the board. The scope of the examination will include the morals, habits, physical and mental qualifications of the candidate, and his general aptitude for service; and the Board will report unfavorably should it have a reasonable doubt of his efficiency in any of these particulars.

"The physical examination comes first in order, and must be thorough. Candidates who fall below sixty-four inches in height will be rejected. Each candidate will also be required to certify 'that he labors under no mental or physical infirmity or disability which can interfere with the efficient discharge of any duty which may be required.' Errors of refraction, when

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not excessive, and not accompanied by ocular disease, and when correctible by appropriate glasses, are not causes for rejection.

"The mental examinations are conducted by both written and oral questions, upon—

"I. Elementary branches of a common school education, including arithmetic, the history and geography of the United States, physics, ancient and modern history and general literature. Candidates claiming especial knowledge of the higher mathematics, ancient or modern languages, drawing, analytical chemistry or branches of natural science, will be examined in those subjects as acplishments, and will receive due credit therefor according to their proficiency.

"II. Professional branches, including anatomy, physiology, chemistry, hygiene, pathology and bacteriology, therapeutics and materia medica, surgery, practice of medicine, obstetrics and the diseases of women and children.

"Examinations will also be conducted at the bedside in clinical medicine and surgery, and operations and demonstrations will be made by the candidates upon the cadaver.

"Hospital training and practical experience in the practice of medicine, surgery and obstetrics are essential to candidates seeking admission to the medical corps of the army, who will be expected to present evidence that they have had at least one year's hospital experience, or the equivalent of this, in practice.

"To save unnecessary expense to candidates, those who desire it may have a preliminary physical examination and a mental examination in the 'elementary branches of a common school education,' by a medical officer of the army stationed most conveniently for this purpose, who will act under instructions from the medical examining board."

Special Regulations for the Second Pan-American Medical Congress, to Meet in the City of Mexico on the 16th, 17th, 18th and 19th of November, 1896.

ENROLLMENT—Article 1. In order to be properly enrolled, each member of the Congress will pay to the Treasurer thereof, in the City of Mexico, the sum of five dollars gold.

GENERAL SESSIONS—Art. 2. There will be one opening session, one closing and one intermediate session of a purely scientific character.

Art. 3. The opening session, which will be of a solemn character and presided over by the supreme authority of the Nation, besides being attended by the members of the Congress, will also be attended by the members of scientific societies, and other distinguished persons who may be invited. The session will be opened with the report of the General Secretary.

This will be followed by a speech of welcome, pronounced by the President of the Congress.

Two members will then speak on scientific subjects, and they will be followed by a speech from the President of the Republic. It is strongly recommended that the scientific speeches should be of short duration.

The intervals between the speeches will be filled up with musical performances.

Art. 4. At the closing session, the General Secretary will notify the place designated by the Congress for holding the third meeting.

Art. 5. The Treasurer will present his accounts to the Congress, showing the disbursements made of the funds entrusted to his care.

Art. 6. A scientific speech will be delivered and a short speech by one representative of each one of the nations attending the Congress.

Art. 7. In the intermediate session, four speeches will be delivered on general matters, by persons who are highly distinguished in medical science, and who, having been in due time invited to do so, have accepted the commission; one of these speeches being pronounced by a Mexican physician, who shall be invited to do so by the Committee of Management.

Art. 8. No discussions will be held in the General Sessions.

SESSIONS OF THE SECTIONS—Art. 9. These sessions will be held from 9 to 12 A. M. and from 3 to 5 P. M., in the places that may be designated by the Organizing Committee. They shall be presided over by the President of each section, alternating with the Vice-Presidents of each one of the nations that are represented in the respective sections.

Art. 10. The person who may be appointed by the Committee of Organization, will be the ex-officio Secretary of each section, and he will fill his post alternately with the Secretaries of the nations who may be represented in the sections; but should the latter not be present, their places will be supplied by the President in office.

Art. 11. The President will direct the discussion in accordance with the order of the day, and will decide all questions that may arise, and that may not be provided for in these regulations.

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Art. 12. The ex-officio Secretary will make out the minutes, and for that purpose, besides his own notes, will collect those of the Secretaries who may have acted in the section. He will also collect from the persons who may have spoken, the written extracts referred to in Art. 19.

Art. 13. All questions relating to the debates which are not provided for in these Regulations, will be decided in accordance with general parliamentary practice.

Art. 14. The voting will be by name or by putting the question.

PAPERS, EXTRACTS THEREOF AND DISCUSSIONS IN THE SESSIONS OF THE SECTIONS—Art. 15. All papers will be presented in writing.

Art. 16. Each author will forward to the Secretary of the Organizing Committee in the City of Mexico and before the first day of August of the present year, an extract not exceeding 300 words, of the paper to be presented by him. These extracts will be printed in English, French and Spanish and will be distributed to the members of the Congress, before the session in which they are to be read.

Art. 17. No paper will be announced which is not accompanied by this extract; but the authors who comply with these conditions, will have a right to have their work published intact in the transactions of the Congress.

Art. 18. The reading of the papers in the sessions must not last more than 20 minutes; when the papers are so long that they cannot be read within that time, the authors will give extracts from them, either in writing or by speech; but they will be published intact in the transactions of the Congress and in the language in which they have been written.

Art. 19. The extracts referred to in the preceding article will be delivered at the same time as the papers, to the Secretary of the Section to which they pertain.

Art. 20. The members of the Congress who may take part in the discussions in any section, will present their speeches in writing at the termination of the sessions, to the respective Secretaries of such sections and they will also be published in the transactions.

Art. 21. The papers which have been announced for reading in the order of the day in each section, will serve as subjects for discussions. In such discussions no speaker will be allowed to speak more than once and for five minutes; but the author of the paper under discussions will be allowed to reply, if he considers it necessary, in one sole speech, which will not go beyond ten minutes.

AUXILIARY COMMITTEES IN THE MEXICAN REPUBLIC—Art. 22. These Committees will be appointed by the Committee of Organization and will be composed of one member for each Local Medical Society, or in their absence, of one physician for every center of population. They will co-operate with the Committee of Organization in promoting the success of the Congress. Said Committees will be appointed during the first months of the present year.

EXECUTIVE COMMITTEE—Art. 23. In order to form this Committee, the Organizing Committee will appoint seven members, including the President, Secretary, Treasurer, and the Mexican representative in the International Executive Committee, and such members will attend to everything relating to the business of the Congress, in accordance with the regulations that they may adopt for that purpose.

MEXICO, January, 1896.

DR. MANUEL CARMONA Y VALLE.
DR. RAFAEL LAVISTA.
DR. EDUARDO LICEAGA.

Retrospect.

Now that the State Medical Society meeting is over we can the better estimate its value. That it was a pronounced success no one can deny, and that, too, in spite of its being a complete innovation and devoted largely to hygiene, which, to most physicians, is a dry subject and but partly understood. That it stands at the head of previous meetings as an educator we feel warranted in unqualifiedly asserting. Moreover, that if the published papers could be distributed not only to every physician in the state, but such portions of them which relate to school hygiene, water and sewage be placed among the laity, great honor would redound to our society and to our ex-president, Dr. Epley, who saw the benefit of such a symposium and had the courage to undertake so broad a programme, so divergent from beaten paths. Could the lessons taught in these papers be brought home to the lives of our people the result would be far reaching indeed.

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Publishers' Column.

Taka-Diastase in the Treatment of Flatulence Accompanied by Acids.

Dr. W. S. Christopher,* in an article in the *Therapeutic Gazette*, March, 1896, page 156, attributes the occurrence of flatulence, accompanied by acids (a clinical phenomenon frequently met), to the presence of micro-organisms which give rise to fermentation in the small intestine and says:

"I have found, when the abnormal fermentations are limited to the small intestine, a very effective means is to digest the starch in the stomach, from which organ the resulting sugar is directly absorbed and does not, therefore, reach the seat of the trouble in the small intestine to provoke and maintain unpleasant symptoms. At times very considerable quantities of starch can be thus digested in the stomach. At other times the process is not very successful, but in general a sufficient quantity of carbohydrate can be thus digested in the stomach and prevented from ever reaching the small intestine, to meet all the needs of the patient, while starving the micro-organisms in the small intestine. For the purpose of thus digesting starches in the stomach, it is my custom to administer an active diastatic ferment immediately after meals and before the secretion of hydrochloric acid has reached such a degree as to interfere with the diastatic action. According to Chittenden and Griswold, the presence of 0.005 per cent. of hydrochloric acid increases the diastatic action of saliva, while a stronger acid diminishes it 0.1 to 0.4 per cent. being sufficient to completely stop the action of the saliva.

"Lately the diastaste which I have employed for this purpose is Taka-Diastase, in doses of three to five grains of the powder, which has proven more satisfactory in my hands than any other amylolytic ferment which I have ever employed."

*Professor Diseases of Children, Chicago Polyclinic; Professor of Pediatrics, College of Physicians and Surgeons, Chicago.

European Endorsements.

The London *Lancet*, of March 28th, 1896, says, editorially: "Antikamnia is well-spoken of as an analgesic and antipyretic in the treatment of neuralgia, rheumatism, etc., etc. It is not disagreeable to take, and may be had either in powder or tablet form, the latter being made in five-grain size. It is described as not a preventive of, but rather as affording relief to, existent pain. By the presence in it of the amine group it appears to exert a stimulating rather than a depressing action on the nerve centers and the system generally. If this be so, it possesses advantages over other coal-tar products."

The concise endorsement of the Edinburg *Medical Journal*, which appeared. in the January issue, is equally interesting: "This is one of the many coal-tar products which have lately been introduced into medicine in Scotland. In doses of three to ten grains, antikamnia appears to act as a speedy and effective antipyretic and analgesic."

Sanmetto in Kidney and Bladder Affections and Enlarged Prostate

J. Paterson Lewis, M. D., Mem. Brit. Med. Asso., Alma, Dalbeattie, Scotland, says: "I have used Sanmetto in a large number of cases of kidney and bladder affections with invariably good results. In several cases of old men, with enlarged prostate, unable to keep their bed for only an hour or so during the night, it has given an amount of relief I could not have believed, seeing the supposed fixed cause, enlarged prostate; reducing their getting out of bed to one, two or three times during the night."

EPILEPSY.—Since Brown-Sequard formulated his celebrated mixture of the bromides these have everywhere been regarded as the "Sheet Anchor" in the treatment of Epilepsy and whatever progress has been made has only been in the line of additions to these efficient remedies. Hammond (Diseases of the Nervous System) says: "The treatment of epilepsy rests solely on experience. Among medical remedies the bromides stand pre-eminent and should be thoroughly tried first in every case." He adds: "Herpin several years ago called attention to the salts of zinc in the treatment of epilepsy,.....I have used the lactate and still more recently the *bromide* with very definitely beneficial results." Lauder Brunton says of the bromide of potassium: "It is especially beneficial in epilepsy and by its use convulsions can almost always be lessened if not entirely stopped." (Therapeutics, etc., p. 521.) Allen McLane Hamilton says of the treatment of epilepsy: "No general remedies have been of so much service as the bromides, especially those of sodium, ammonium and potassium and since their introduction, about twenty years ago,

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the number of cures has greatly increased and the prognosis improved as our knowledge derived from experimental therapeutics has broadened." (Reference Hand-Book, Vol. 11, p. 708.) The literature upon this subject is so vast that volumes might be filled with quotations from standard authorities only, but our desire is to make the briefest reference to these with the view of calling attention to "Neurosine," the elegant preparation of the usual bromides together with bromide of zinc and the pure and reliable extracts of Cannabis Indica, Henbane and Belladonna. Since Trouseau announced the great efficacy of Belladonna in the "Petit Mal" it has held high rank as an admirable addition to the bromides. Of Cannabis Indica and Henbane it is well said: "In morbid states of the system it has been found to cause sleep, to allay spasms, to compose nervous disquietude and to relieve pain. In this respect it resembles opium, but it differs from that narcotic in not diminishing the appetite, checking the secretions or constipating the bowels." (U. S. Disp., p. 351.) It is only reliable when properly prepared from a pure specimen of which "Neurosine" is composed.

An Agreeable, Finished Pharmaceutical Product.

I find Sanmetto a preparation of merit, combining the desirable properties of sandal wood oil and saw palmetto in an agreeable, finished pharmeceutical product. Have found it of particular value in sub-acute and chronic inflammatory disorders of the genito-urinary system. Our druggists carry it in stock and I have already found frequent occasion to prescribe it.

J. HOBART EGBERT, M. D.

Holyoke, Mass.

HYOSCINE HYDROBROMATE was admitted to the United States Pharmacopeia, 1890. The German Pharmacopeia of the same issue also made this product official, but in a Supplement, issued a year later, the Pharmacopeia Commission adopted the name *Scopolamine Hydrobromate* to replace "Hyoscine." The reason for this change is that nearly all the Hyoscine supplied by manufacturing chemists is made from *Scopolia Atropoides*, and hence "Scopolamine" more correctly indicates the source of the alkaloid. In this country the name Hyoscine is, moreover, alleged to be a trade mark, and as a consequence it is sold at an exceptionally high price. C. F. Boehringer & Soehne, taking these facts into consideration, have recently put in stock this product labelled thus: "SCOPOLAMINE HYDROBROMATE, identical with HYOSCINE HYDROBROM, U. S. P." and their product (specify B. & S.) is obtainable in 5, 10 and 15 grain vials from wholesale druggists throughout this country at about half the price quoted for Hyoscine.

IF YOU want a chemically pure Cocaine Muriate, in handsome, large crystals, free from every impurity, the highest standard product—specify *Boehringer's*.

If you want an absolutely pure quinine sulphate, in light, flocculent crystals, the finest and best made—specify *Boehringer's*.

If you want standard chemicals, alkaloids, etc. —such as atropine, codeine (pure phosphate, sulphate, etc.), chloral, eserine, rescorcin, terpin, hydrate, etc.—specify *Boehringer's*.

Wholesale and retail druggists throughout the United States carry Boehringer's (B. & S.) products in stock to promptly supply all demands; and if information is wanted, enquiries addressed to the firm will receive prompt attention and response.

Treatment of Gout.

At a meeting on February 7 of the West London Medico-Chirurgical Society, Dr. Archibald Garrod read a paper on the "Rationale of the Accepted Treatment of Gout." He drew attention to several fundamental points on which there was wide diversity of views, such as the importance of the part played by uric acid in the phenomena of gout, the causation of the accumulation of urate in the blood by excessive production or diminished elimination, the place of origin of uric acid in the body, and the substance or substances from which it was formed. The aims of treatment, as far as uric acid was concerned, were pointed out, and the therapeutic methods generally resorted to were mentioned. The conclusion was drawn that we were not at present in possession of such knowledge of the pathology of the disease as would be required to enable us to formulate a scientific course of treatment. On the other hand, the belief was expressed that the treatment usually adopted, although largely empirical in its origin, was capable of giving great relief, and that the results were decidedly satisfactory.

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Selections.

Some Points on Strangulated Hernia.

By W. B. De Garmo, M. D.,

Professor of Special Surgery (Hernia) at New York Post-Graduate Medical School and Hospital.

Read before the Post Graduate Clinical Society, March 7, 1896.

Notwithstanding the great advance which has taken place in surgery during the last ten years, and the passing of hernia from the list of afflictions which were considered almost incurable, to the side of curable affections, the death rate in connection with strangulated hernia stills remains unnecessarily high, and this, in the opinion of the speaker, is due entirely to the fact that the average practitioner, who would not hesitate to do a tracheotomy or to amputate a limb, stands aghast at strangulated hernia, and fears to touch it with the knife. This belief leads me to select this subject for discussion this evening, as in my regular clinical work cases of this character are not frequent, and consequently less time is devoted to this subject in the regular lectures than its importance warrants.

I have for many years felt that the dread of the practitioner in connection with these cases was due almost entirely to the manner in which the anatomy of the region is taught. In the dissecting room we are instructed in the number of muscular layers, in the number of layers of fascia, regarding the minute blood vessels and nerve supply of the parts and peritoneal lining of the region. These, in the mind of the student, form a more or less complex subject, which in many instances follows him through life, and when he thinks of putting a knife into these parts, he at the same time tries to recall all of this minute anatomy, and feels that in his surgery he must fail unless he can clearly map out the parts during his operation; and yet nothing could be farther from the case. In saying this, I do not wish to appear to discourage exact anatomical knowledge, but I do wish to emphasize the fact, that in practice, and especially in cases of strangulated hernia, there are only two or three important landmarks to be kept in mind, and that a man can do a successful operation who has entirely forgotten all other anatomical points. These landmarks will be named when we come to speak of the operation.

Let us consider the subject in its natural order, however, and first discuss a few of the leading points in diagnosis. The first and most important is, of course, the history of a tumor, formerly reducible, but now not so; and, second, the character of the pain or distress from which the patient suffers. In cases of acute complete strangulatiun of the bowel the symptons are characteristic and violent, and easily recognized by almost anyone. A man of large physique, and sufficiently brave to stand having his finger amputated, with little complaint, will, under the the influence of strangulated hernia, become as a mere weak child. His courage is gone, his strength is gone, and he lies moaning in a state of apparent collapse. His face is shrunken, his skin sallow, dark rings form under his eyes. He may not localize the pain at the seat of the tumor, but he complains of a general distress that is intense beyond all description, and he will pray for immediate relief or death. This is not an overdrawn picture; it is one that many of my hearers have seen, and if they have heeded the danger signals given them, they have saved a human life. If they have not had the courage to do this, they have sacrificed it. In these extreme cases there is frequently no time to send for the specialist, or even for the general surgeon, unless he is very near at hand. Consultations are not in order, because they are attended by delay. Continuance of life rests with the man who has first seen the case. Fortunately we see only a few cases where the symptoms are so violent, but when we do see them, we should always recognize the fact that temporizing will not do, that action must be immediate. The day of waiting for stercoraceous vomiting as an indication that an operation is demanded has gone by, and usually when this occurs the time of safety has already passed. As a rule, we can judge fairly well of necessity for haste by the acuteness of the attack and the violence of the symptoms.

And this leads me to a consideration of the difference between incarcerated and strangulated hernia. The terms are used indiscriminately, but it should not be so. A hernia ordinarily reducible, but owing to the position in which it protrudes, or the extra bulk which has protruded, becomes temporarily incarcerated. The patient cannot replace it, perhaps the physician fails to replace it, but aside from the small amount of discomfort, the patient is not sick. There are no special symptoms indicating danger. Here we have an incarcerated hernia. The circulation is not shut off, the function of the bowel, if there be any protruding,

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is not interfered with. But we must not lose sight of the fact that our patient is just on the borderland of true strangulated hernia. He should not be allowed to go about his business, but should be kept in bed, and ice or other cold applications applied to the tumor. If we fail to do this, we may have developed suddenly or gradually general abdominal distress, followed in order by all the symptoms of acute strangulation, wherein the circulation is impeded, and the function of the intestine interruped.

I have had a physician say to me, in describing his case, that he doubted that there was strangulation of the intestine, because there was no elevation of temperature. Temperature is no guide, either in the diagnosis or in the treatment of strangulated hernia. We are quite as liable to find it sub-normal as to find an elevation. The pulse is apt to be weak and rapid and irregular.

Do not depend too much on local symptoms in strangulated hernia. I have seen several cases where they were entirely absent, the pain complained of being general abdominal distress, or, as in one case, where there was extreme pain in the left iliac fossa, there was a tumor in the right femoral region which was free from pain, which had been irreducible for several years, and in which the patient thought there was little if any change from its ordinary condition, and still, experience led me to cut down upon this tumor rather than into the cavity of the abdomen, which it had been expected that I would do by the physician who called me. Inside of this piece of omentum protruding through the femoral canal I found a loop of bowel which was black and whose future looked very uncertain. The treatment of this bowel I will speak of later on.

The prognosis of these cases depends entirely upon the man who first sees them. Where the symptoms are urgent it is of the utmost importance that relief be given without any delay, and if it is afforded promptly, recovery is almost certain. The operation is not dangerous or difficult; the disease is absolutely fatal. Even a bungling operation in the hands of an inexperienced man is safer than the delay caused by securing an expert.

Now we will proceed to the consideration of the medical or non-sugical treatment of strangulated hernia, and this can be dismissed very briefly. From first to last, it is in every sence of the word a surgical disease. Medicine for the relief of strangulated hernia is a delusion and a snare. You may relieve the patient's sufferings by a liberal hypodermic use of morphia and this is entirely allowable if you remember, at the same time, that you are using the one remedy that has resulted in the death of many patients suffering from this accident. In relieving the pain you relieve the anxiety of the patient, of his family, and, unfortunately, of yourself, and in the latter lies the error into which many have fallen. You forget that the destructive change that is taking place in the loop of bowel that is surrounded by constricting bands is going on just the same as before the patient was relieved of his pain. The hypodermic is perfectly right and proper to relieve suffering—nothing further.

The idea of muscular spasm as a factor in the occurrence of strangulated hernia should be entirely banished from the medical mind. This idea existed for centuries, and upon it was based the giving of opiates and emetics, and even the giving of anæthetics. Therefore I have no suggestions to make regarding the drug treatment of this affection. Strong coffee has been recommended, and where it can be retained I have no objection to its use. It is a good stimulant and paves the way for the subsequent operation, and in rare instances it may aid in the reduction of the strangulated intestine by the increased peristalsis which it produces.

EXTERNAL APPLICATIONS.

Heat, cold, poultices, croton oil, liniments and almost everything in the catalogue have been applied to strangulated hernia. I have only one to commend and that is cold, and there are two ways of making this application. One is by the ice-bag and the other by the application of ether poured over the tumor. Ice is perferable because more convenient. If ether is used, the parts must be anointed with vaseline, and about a teaspoonful of ether should be poured over the tumor every two or three minutes, or it may be applied by spray.

TAXIS.

If I should ask every man present to demonstrate his individual opinion of the meaning of the word taxis, I am sure that the result would be a surprise to my hearers as a whole. Few have a definite conception of its meaning, and personally, in writing or speaking, I avoid its use as much as possible, and speak instead, of the reduction of hernia by manipulation. Here we have a power for good and a source of great evil combined. The majority of men who take hold

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of a strangulated hernia have but one thing in mind, and that is to push that mass back into the cavity of the abdomen where it belongs; everything else is subordinate to that idea, and the amount of force that is usually used is far more dangerous to the patient than would be the operation. I can suggest to you a method which is very simple, and which if carefully executed will enable you to reduce hernias which perhaps several physicians have worked upon in vain. Your manner of working with the patient has a bearing upon its success. Try at the outset to assure him that you are not going to add to the torture which he already endures; confirm this by handling the tumor with the greatest gentleness, by which you ensure his co-operation instead of unconscious resistance. Place him on a table with the hips well elevated, and first, crowd the entire abdominal contents away from the lower abdomen toward the chest, then work the fingers of one hand around the neck of the tumor where it issues from the abdomen, holding the bulk in the hand, if possible, and instead of trying to push this tumor back into the abdomen try to draw it farther down.

Now with the other hand grasp the canal and its contents (if inguinal hernia) gently but firmly between the thumb and fingers, and while making traction and compression with the hand that is holding the tumor, manipulate the canal with a "kneading" motion with the other. This can all be done without adding to the patient's pain to any extent, and it will succeed when more rude handling fails.

When you push upwards on a strangulated hernia usually you carry it up over the edge of the ring upon the abdominal wall, and accomplish nothing more. In the method suggested *by traction* you lengthen out the mass that is blockading the canal, favoring the effect which you afterwards produce by *compression*, *i. e.*, the partial emptying of the engorged blood-vessels, the displacement of the imprisoned gas and fluids. This is further aided by the action of the fingers upon the canal, which tends to work the bowel free at the point of constriction.

ASPIRATION.

Aspiration at no very remote period was considered justifiable in strangulated hernia, drawing off such fluid as might be contained in the sac, and thereby aiding in the reduction; or even going futher, perforating the bowel and allowing the gas to escape from its interior. I should not refer to this subject did I not know that there are still practitioners who think this a justifiable method. Personally, I have never seen anything gained by aspiration; I have looked upon it as being attended with even greater risk than the operation itself. If we perforate an intestine which is perfectly healthy, on the withdrawal of the needle the tissues rapidly contract, obliterating the opening entirely; but this same perforation in an intestine already over-distended and paralyzed will rapidly increase in size when the bowel is returned to the abdomen and result fatally.

The question as to when to operate has been partially covered before, and is indicated as soon as it is ascertained that the hernia cannot be reduced by manipulation. Preparations for the operation should be made, and the anæsthetic should be given only when these preparations are complete. I look upon an anæsthetic, as an aid in the reduction of hernia, as a very dangerous means. Really the only point gained is the insensibility of the patient, and this leads many practitioners to use an amount of violence that is far more dangerous than the operation. Therefore, when prepared to operate, give the anæsthetic. Under its influence, if you choose to make one more careful trial, there is certainly no objection. Having failed in this after not more than ten or fifteen minutes' work, the operation should be begun.

In operating for strangulated inguinal hernia we have no occasion to keep in mind all the various muscular layers and tissues which cover the internal ring. Our first incision is to the external ring, and in cutting to this we merely cut through skin and the two layers of superficial fascia. It is very doubtful whether, in cutting through the fascia, we will distinguish one layer from the other, and if we cut below the external ring, our first land-mark will be the hernial sac itself, which is usually recognized by its bluish white and ordinarily dense character. If the obstruction is at the external ring, which is the most frequent point, this incision will bring us directly to a position where it can be divided, and this division can be made either by cutting down against the sac through the layers of the overlying tissue or by means of blunt scissors gradually dividing it. Or, if the tissues be sufficiently relaxed to allow of their being taken up on a grooved director, they can be divided in this way. Careful cutting of the bands of constriction by means of the knife is not dangerous. These bands will usually relax

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with a snap as the knife divides them, and there is little danger of incising the sac itself or the bowel inside without careless cutting.

Now, on the other hand, we may have cut to the external ring and found it large enough to allow of the introduction of the finger, and still we have not found the band of constriction. This shows us that the point of strangulation is in the sac itself, or at the internal ring, and our next move should be to split the apooneurosis of the external oblique, by passing up under it a grooved director and dividing it fully to the internal ring. This brings before us the entire length of the canal and enables us to ascertain whether the constriction is at the internal ring or below. Still failing to find the cause of the strangulation, or having found it and cut it, we should next, in every instance, open the hernial sac, that we may carefully examine its contents. If we have failed previously to find the cause of the trouble, we may in splitting the sac open find that the bowel has been incarcerated by a band of tissue in its interior. It is most frequently at the external, or, in rare instances, at the internal ring.

This brings us to the treatment of the contents of the sac. Very frequently you will find hardened congested omentum. In these cases it has, in a measure, been the cause of the strangulation of the gut.

When the speaker studied medicine he was taught that everything in the sac was to be returned to the cavity of the abdomen, and that the sac was never to be opened unless there were some special indications of its necessity. All that has been changed during the past twenty years, and now I should like to impress upon those men who perhaps were taught as I was taught, that the returning of any sac to the cavity of the abdomen, in case of strangulated hernia, without opening it and examining its contents, and usually removing the entire sac itself, is the very worst form of surgery. All omentum that is not absolutely normal in character should be amputated. My method of amputation is a little more tedious than that adopted by many operators, but I feel certain that this delay in the operation is warranted by the increase of safety which we obtain for the patient. As those who have seen me operate in these cases know, I am in the habit of allowing any omentum to protrude that will, never making much traction to draw it down from the abdomen, but removing all that does protrude. I spread this apron of omentum out to its fullest extent. All vessels that are large enough to be seen are tied off separately, including with them as little fatty tissues as possible; and all fatty tissues are also tied, so that, when I have finished, we have a line of sutures extending across the neck of the omentum, none of them containing any amount of tissue, and every large vessel with its own ligature. The redundant omental tissue is then cut away, and the stump is carefully dusted with aristol and returned to the abdomen. I have for many years used silk as a suture material for the removal of omentum, and have never, in a single instance, had reason to believe that it caused any trouble inside of the abdominal cavity. Of course, great care has been exercised to have my silk clean, and silk is a substance which we can sterilize and resterlize, securing greater certainty of asepsis than in any other material.

The two dangers in the removal of omentum —and in former years they were very great—are from septic poisoning and secondary hemorrhage. Our knowledge of aseptic surgery has done away entirely with the first risk, and care in the ligation of vessels can do away with the second. Some of my surgical friends feel that I exaggerate this part of the subject, and are in the habit of catching up large pieces of omentum, as large as the wrist, puncturing them in the center and tying both ways with ordinary catgut. If they feel satisfied in doing this way, they must continue, but it would not satisfy me, and for two reasons: First, that under the pressure of the ligature the fatty tissue is rapidly absorbed, within twenty-four hours, the stump is liable to be withdrawn from the ligature entirely, leaving large vessels wide open; but allowing that this does not take place, there is still another reason why I object to it, and it is this: that this stump is left in a solid and hard mass, permanently united, convenient in shape and position to form a re-entering wedge for the recurrence of the hernia, instead of being normally distributed over the abdomen, as it is when tied off with multiple ligatures; but this is a slight diversion from our theme, and we return to the question of the contents of the sac.

I have seen a bowel strangulated only four hours so black at the time of the operation as to lead to serious doubt whether vitality was left in the loop or not, and I think the treatment of the bowel in this condition is very important. There is no need of great haste after the constriction has been removed from this bowel. We can better afford to lose a half hour for its treatment while it is out-

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side of the abdomen than to take the slightest risk of its perforation after it has been returned.

The treatment of these cases is very simple indeed, and consists in the application of hot towels or sponges, It is very gratifying to see a bowel in the condition that I have referred to gradually recovering from its almost black color, and being restored first to a mahogany and then to a lighter color during the course of twenty to thirty minutes' application of heat. If this recovery in color has been uniform throughout the whole loop, we can put the bowel back with every feeling of certainty that its continuity will not be destroyed. If, on the other hand, we find that a large part has undergone this restoration, and one or more spots remain black and lusterless, we would have a signal of danger which we must heed, or the life of the patient is liable to be sacrificed.

If it is small and does not diminish the lumen of the gut more than one-fourth, then the safer plan is to turn this spot in and stitch the healthy structures of the gut together by means of Lembert sutures. This may be done with fine silk, being careful not to make very much traction upon them, and also being sure that they are taken far enough back not to tear out. If the gangrenous spot is of larger size and the turning in of it would diminish the size of the gut to too great an extent, then we have two other methods for consideration—the performing of resection or the forming of an artificial anus. Almost any man who would operate on a strangulated hernia can do resection by the aid of the Murphy button, but taking the whole profession, not more than one man out of a thousand is fully competent to do an anastomosis of the intestine without the aid of this device. Unfortunately, this remarkable invention of Dr. Murphy is not within the reach of every man who is called upon to relieve strangulated hernia. I think, for the general practitioner, when there is grave doubt as to what he shall do with an injured bowel, the safer plan for him would be to pass a piece of gauze under it, which would retain it well forward in the wound in which position it may be left for twenty-four hours. If he then sees improvement in its color he can allow it to slip back into the cavity of the abdomen and close the wound by sutures that had been placed on the previous day, but left untied. Statistics would lead us to believe that more cases recover under this treatment than when resection is done.

Having cleaned out the contents of the sac and returned all normal parts to the abdomen, we should next, in every instance, tie off the sac at its neck, clear out abnormal structures from the canal, and close it in the manner that you have so often seen done here in the Bassini operation. This insures, not only relief for the patient from immediate dangerous symptoms, but the radical cure of his hernia.

Just a few words regarding strangulated hernia in children, and then I shall close this rambling paper. In my experience, which now extends over a period of more than twenty years, and during which time I have seen a large number of children with incarcerated and true strangulated hernia, I have not in a single instance found it necessary to do an operation. I do not say that I may never meet with a case, even in infancy, where I shall have to operate, but I give you my experience as it has come to me. Infants seldom suffer from acute symptoms of strangulation, but they do frequently have incarceration, which you may not be able to relieve for several hours; but when there are no urgent symptoms, I send the child home and tell the mother to get the child asleep; and while asleep, make gentle pressure over the tumor, and almost always reduction takes place. If the symptoms are urgent, denoting true strangulation of the bowel, I at once administer chloroform, and have never failed to reduce the tumor.

This I have done many times in my own office, and not infrequently in my clinic before this class.

Perhaps, in closing, I can do no better than to give you a summary which has already gone the rounds of medical journals in various parts of the country, in connection with a former paper reporting a number of these cases.

CONCLUSIONS.

(1) Prompt operation saves complications and life.

(2) Infants seldom require operation.

(3) Medicines and external applications are dangerous, as their use causes delay.

(4) Operations done early are neither difficult nor dangerous.

(5) Rough handling is more dangerous than an operation.

(6) Morphia stops symptoms, but does not stop destructive changes.

(7) Local symptoms are misleading.

(8) Hot water saves resection, or furnishes prompt evidence of its necessity.

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(9) Operate rather than attempt the reduction of a hernia acutely strangulated for twenty-four hours.

(10) Open to internal ring in every instance.

(11) Always draw the bowel down far enough to examine the point of constriction.

(12) It is not considered good practice to give cathartics after strangulation and the return of the suspicous bowel.—*The Post-Graduate.*

Pilocarpine.

By A. L. Benedict, A. M. M. D.,

Lecturer on Diseases of the Digestive Organs, Dental Department, University of Buffalo; Associate Editor *Medical and Surgical Reporter*

This alkaloid, obtained from the leaves of pilocarpus jaborandi of Brazil, is official as a hydrochlorate. The plant also contains an antagonistic alkaloid, jaborine, whose action is similar to that of atropine, and the varying proportion of the two active principles renders the action of the crude drug or of its galenical preparations quite uncertain. The antagonism between physostigmine and calabarine, between morphine and narcotine, to some extent between hyoscamine and hyoscine, are similar instances of the combination of antidotal drugs in the same plant.

Pilocarpine is a powerful local stimulant of glands and, to a less degree, of smooth muscle. The glandular action is manifested mainly in the outpouring of a copious perspiration and in free salivation. The action on unstriped muscle is most conspicuous in the eye, the pupil being contracted. There is, however, some danger of producing abortion from analogous effect on the unstriped muscle of the uterus. It is possible that stimulation of the growth of hair, sometimes observed after internal or local use of pilocarpine, is due to the contraction of the little muscles connected with the follicles. Muscular stimulation is followed by depression, of importance only in the case of the heart and arterioles. A fall of arterial pressure occurs after any fairly liberal dosage, so that the usefulness of the drug is limited in many cases of dropsy in which it is theoretically strongly indicated.

Probably the chief use to which pilocarpine has been put, is in the class of cases just mentioned. I have used it for the purpose of causing elimination through the skin, with apparently good results, in several instances, and without noticing the cardiac depression which so many clinicians emphasize. Indeed, I am convinced that the eloquent warnings against such action, as against the cumulation of digitalis, the convulsions due to strychnine, the cyanosis and heart failure of acetanilid, are founded on experience with too large doses of the medicines in question. I must confess that I have never seen any of these untoward results. Although preferring the hot-air or steam bath, we must bear in mind that many patients are so situated that even the simplest apparatus is either obtained with difficulty or there is no one to be intrusted with its management. Many patients, too, will submit to drugging, who will defeat the best intentions of the physician in the way of mechanical and physical methods of treatment. Among the poor and ignorant, I have often substituted pilocarpine for the hot-air bath, and never with any more marked evidence of depression than is usually noted after the physically induced sweat, though the amount of elimination was apparently as great.

We must bear in mind, however, Bouchard's investigations as to sui-intoxication and the relative value of elimination through the skin, the kidneys, the bowels, and by bleeding. This author asserts, after the most careful experimentation, that the withdrawal of 32 grams of blood removes fifty centigrams of extractive matters—which he elsewhere argues to be the really toxic substances normally eliminated through the kidneys—$\frac{1}{6}$ of the entire daily renal elimination. This amount of blood also, is equivalent to 280 grams of liquid feces and to 100 liters of perspiration. In other words, a bath-tubful of perspiration does not represent the purification secured by removing a third of a pint of blood, or by a single copious liquid stool. However, we must remember that, in the practice of medicine, we must often be limited in the execution of theoretical indications, and that we have to be thankful for Hobson's choice rather than no choice at all. Moreover, I do not believe that clinical experience bears out the extremely low eliminative value of perspiration assigned by Bouchard.

Pilocarpine ranks in dose approximately with morphine, emetine, apomorphine, etc. Two centigrams is on the danger line, one centigram is a full dose, five milligrams is efficient if we intend to repeat once or twice daily. In general, it is better to administer drugs by the mouth rather than hypodermatically, unless there is special reason for haste or for sparing the stomach.

Pilocarpine has been used, to some extent, to cause a free secretion from the respiratory tract.

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It has been given with the idea of floating off a diphtheritic membrane, but the indication merely to remove the membrane is so unimportant and the danger of cardiac depression is so great, that this use can scarcely be considered proper. It is said that pulmonary edema may be produced by too free administration of pilocarpine, the edema being of an active and secretory origin. Here, again, my personal experience fails. Some time ago, in treating a dilated and catarrhal stomach, due to weak circulation, and this, in turn, to a degenerated heart without valvular disease, it became necessary to attend to a complicating bronchitis. Ammonium chloride failing, and the secretion remaining tenacious and scanty, the following combination was ordered:

℞ Pilocarpine, hydrochloratis .06
Sanguinarin. nitratis .06
Syr. Tolutani et Aquae q. s. ad 100.00
S.—Teaspoonful four times daily.

The secretion became quite free after three or four doses, but the medicine could not be continued on account of nausea. The nausea seemed to be due more to the necessity of swallowing than to any taste or direct irritation of the drugs. While in general practice, I used pilocarpine or some liquid preparation of pilocarpus with considerable success in similar bronchial conditions.

Pilocarpine may be employed as a galactagogue. I have frequently suggested this use, but, as nursing women are not apt to come under my direct care, no cases can be reported, though my impression is that most of the cases in which the suggestion has been followed out, have resulted favorably.

Mumps, though theoretically falling within my field of practice, is a disease that I do not now often encounter. The non-infectious cases of parotitis or inflammation of the other salivary glands that I have seen, have always presented some conditions that seemed to counterindicate a forcing of the secretion and to call rather for external applications and sedatives. However, in all these cases, there is good authority for using pilocarpine.

Pilocarpine is recommended for use in the eye to neutralize the mydriatic effect of cocaine and to stimulate the absorption of retinal exudates.

It has been suggested, from the occasional thickening and darkening of the hair during the administration of pilocarpine in Bright's disease, that it might be employed as a "trichogogue." I have mentioned this fact to a number of persons under treatment for other conditions, who have asked for something to prevent falling out of the hair, or to stimulate the beard or mustache. In some instances, particularly in the former condition, pilocarpine has had the desired result, but it has not proved successful in forcing a premature growth of hair on the face. It is a common observation that the beard grows more rapidly during warm weather, and I would suggest that the stimulating action of pilocarpine, when manifested, is due simply to a concomitant increase of function of sweat glands and hair-follicles.

Some physiological experiments have shown that pilocarpine increased the secretion not only from the skin, salivary glands and respiratory tract, but from the stomach, pancreas and liver. Last summer, I undertook to use the drug in atonic dyspepsia. First, a number of experiments were undertaken on dogs. Unfortunately, the only ones obtainable at the time were those about to be put to death by the humane society, by means of suffocation with illuminating gas (containing CO.). I was allowed only to give the drug a short time before death and to open the stomachs after the dogs had been suffocated. No difference could be seen in the condition of the stomach contents, according to the time at which the drug had been administered—ranging from fifteen to forty-five minutes—nor according to whether it had been administered at all or not. However, the conditions were so unfavorable for drawing inferences, that I was not deterred from clinical use of the drug.

Let me explain, that I use the term *atonic dyspepsia* as indicating a purely functional disturbance of gastric digestion in which motility and hydrochloric acidity are both below par, whether fermentation acids have developed secondarily or not, unless they are so much in excess as to imitate the irritability and increase of motor function seen in cases of genuine superacidity. I have been criticized for not using the term *hypo-acidity* and for employing the word *atonic* in other than a muscular sense. The term *hypo-acidity* is a crime against etymology. Let us either say hypoxyntic or subacid, or, better yet, simply state that not enough hydrochloric acid is formed. As to restricting the use of the word *atonic* to cases in which chemical digestion is normal, but in which motor power has failed, I must confess that my experience scarcely includes such a case, and I doubt the propriety of

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making discriminations which excel in nicety those made by the disease-processes which we are attempting to describe.

After all, there is nothing unscientific in recognizing the fact that the functions of the stomach rise and fall together. Granting that we might make so nice a differentiation so far as diagnosis is concerned, until recently we have been practically reduced to one drug, strychnine, or some imperfect substitute for it, whether we wish to stimulate glands or muscles. However, it seems to me from recent experience that pilocarpine does exert an influence on gastric secretion superior to that of strychnine. In a few cases at the beginning of my clinical study of this drug, the results were good; then, a number of failures with some successes were recorded, later the results have again been quite uniformly good. During the last four months, I have had under close observation a case of dilatation of the stomach, in which the symptoms were at first so grave as to suggest cancer to several physicians who saw the patient, but in whom an entire return to the normal size of the organ and a relative recovery of general health, have completely disproved such an idea. There remained, however, a dyspepsia of the subacid and atonic type, which does not readily yield to treatment with hydrochloric acid and antiseptics. Pilocarpine has hastened digestion and has almost entirely removed the important symptoms of fermentation of undigested food remnants. Thus, from a moderate but certainly not entirely convincing experience, I believe we may conclude that pilocarpine is a valuable stimulant to glandular activity on the part of the stomach, though not an infallible remedy. In this use, five milligrams, given before or some hours after eating, seems to be the standard dose.

It is always satisfactory to receive an explanation of the manner in which a drug operates. Dr. Louis Waldstein, in the *Berliner Klinische Wochenschrift*, details a careful study of the blood in diphtheria. He finds that a favorable issue depends directly on the number of lymphocytes and inversely on the number of multinuclear leucocytes. An increase of the former and a decrease of the latter are found to follow the administration of anti-toxin and also of pilocarpine. Both theoretically and practically he deduces the value of pilocarpine in treating multiple lymphomata, streptococcus pharyngitis, and even tuberculosis, when not too far advanced. It is not strange that a glandular stimulant of such power as pilocarpine should also stimulate the uni-cellular glands of the blood. If this action is confirmed by more extended experience, another signal victory has been achieved by modern medicine.

174 Franklin St., Buffalo, N. Y.—*The American Therapist.*

The Surgical Mania.

By Simeon S. Todd, M. D.

Emeritus Professor of Obstetrics and Diseases of Women in the Kansas City Medical College. Member and Ex-President of the Missouri State Medical Association.

Editor Lancet:

Dear Sir: I avail myself of your kind invitation to furnish a paper for your May number. It is, however, with some misgiving that I speak on the subject here presented, for, though what I am to say ought to be said, and for the honor of the profession and the good of the people shall be said; and though I speak the truth, as I see it, yet am liable to be misunderstood, liable to misinterpretation, and subject myself to the risk perhaps of having my motives impugned.

The art of healing has ever been held in reverence. It was thus esteemed among our barbaric ancestors, when, associated with the priestly office, charms, invocations, and noisy incantations were relied on for the cure of all maladies of mind and body. It has been subjected to many perils since from the wild vagaries of fanatical teachers calling themselves reformers, but who were mercenaries only, reaping unearned wages, the fruit of fraud. Despite these obstructions by the way, the healing art though hourly baffled in its beneficent and bold dealings, not with the physical only, as some suppose, but with the double enigma, the physical and the psychical, body and soul, has kept step and is keeping step in the rapid march of civilization. From the depths of superstition's follies it has risen by cautious steps to a height of respectability and usefulness that is without parallel, I am bold to say, among what are known as the learned professions.

Now while we claim, and as a body deserve, this distinction, can we say that we are wholly rid of the perils of the past, and perils yet to come? Can we say that our profession is without dishonor—base, almost undisguised dishonor, especially in the field of surgery? Do not the people *believe*, and does not the profession *know*, that rank imposture is being practiced daily in our midst? Not only in our own town and in our own

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state is this done, but all over the states, and all over Europe. I allude to the prevailing spirit of rivalry, and the mad thirst of the young surgeon, and he is usually a young surgeon, who for notoriety and gain seeks opportunities for the performance of dangerous and mutilating surgical operations for conditions perhaps easily cured by milder and safer means, of which he knows but little. In France, where this heinous practice is nearly as bad as with us, they call this mania the *furie operatoire*. Much of this bad work is in gynecic surgery. The cæcal appendage, too, is meeting with a bad run of luck.

Emmett's operation for laceration of the cervix uteri, the secondary operation, and Battey's operation for the arrest of menstruation, which he called normal ovariotomy and which soon got a better name, though often beneficial, especially the latter, *have done a world of mischief*. The operation first named, when secondary, having failed in most cases to do good, and in many cases done harm, has almost been abandoned; but such was the impulse unfortunately given to the operation by Dr. Emmett that a surgeon in one of our large Western cities soon after the doctor called attention to the operation that bears his name, reported over 200 cases of that operation in his own practice, all done within a few months! He was not a distinguished surgeon either, but probably hoped to be. Another, in one of our Eastern cities, after a search-light process we may suppose, was able to write down a total of 300 cases of the same operation in his own practice, and covering but a limited period. The rage for performance of Emmett's operation having abated the tide set in toward the operation of Battey. In a brief period of time a young surgeon in a limited field of practice in a Western city was able to display a large glass jar nearly filled with ovaries in alcohol, said to be about one hundred. Another surgeon in one of the Eastern cities reports more than 50 cases of operation done for relief of appendicitis, all done within a month! What are we to think of such work?

If space permitted a score of like cases of malfeasance, not to call it by a harsher name, could be cited. Now, let no one misunderstand me, I am not placing a straw in the way of rapidly advancing surgery. Honest strife for place, for pecuniary gain, and for mastery in skill are praiseworthy. For 27 years I have filled the chair of obstetrics and diseases of women in the Kansas City Medical College, to the extent of my ability, and during this long period have had not a little experience in the teaching and practice of gynecic medicine and surgery. With these experiences fresh in mind I concede without stint the triumph of modern methods and modern skill over the methods and skill of the past. I am proud of the skill to which we have attained, and especially am I proud of the wonderful achievements in abdominal surgery of late years. All honor to the conscientious surgeon whose trained judgment and deft fingers have won him his way to the front. I condemn only the ignorant, the rash, and the dishonest. I fear that there is no remedy for the evil complained of. The persons who do such work are known, but individual cases ordinarily elude detection. In operations in deep cavaties it is not difficult to hide a mistake or a fraud. But, as I have said, these persons are known to the profession, and they should be spurned into obscurity. Their acts are crimes, but it is not possible to reach them by process of law. I have spoken with some freedom, but the profession in all of the larger cities know that I have spoken truly.—*Langsdale's Lancet.*

The Phagocytic Action of Giant Cells in Tuberculosis.

The nature and the significance of giant cells, found in many pathologic conditions, but especially in tuberculosis, have not been satisfactorily determined. The results of elaborate investigations concerning these structures do not agree. The opinions that at present obtain concerning their significance may be divided into two groups. Thus Weigert and Baumgarten believe that giant cells (in tuberculous foci) represent a partial necrosis of cells in the act of proliferation. The tubercle bacillus in the interior of the cell exerts sufficient stimulus upon the nucleus so that nuclear division may occur, but a division of the cell body does not take place because it has suffered necrosis under the influence of the bacilli. For the same reason the bacilli in the giant cell are found in the vicinity of the nuclei; the part that is not nucleated contains but few or no bacilli because the soil of this, the necrotic district, has been exhausted. Metschnikoff, on the other hand, maintains that the giant cells have considerable vitality and play an active part against the tubercle bacilli. He claims that there exists a definite relation between the course and the duration of tuberculosis and the phagocytosis of giant cells. Metschnikoff interpreted certain appearances on

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the part of tubercle bacilli enclosed in giant cells as indicating the gradual destruction of the bacilli, and this belief was supported by Koch in his large work on the etiology of tuberculosis. Stschnastiny, Soudakewitsh and Klebs all side with Metschnikoff. Klebs regards the giant cells as peculiar tissue formations that serve to protect the organism. Quite a discussion has been carried on between the supporters of these two diametrically contradictory reviews. Weigert regards the destruction of bacilli in the interior of the cells as not proven. The finding of dead bacilli and masses traceable to them in the giant cells does not prove phagocytosis on the part of the latter, And Baumgarten concluded from his elaborate studies that the bacilli in the interior of giant cells do not show the slightest indication of disintegration. He believes that Metschnikoff in his experiments employed cultures that contained bacilli of diminished vitality.

With these contradictory intepretations before him Welcker concluded to re-investigate the whole question according to the methods employed by Metschnikoff and Stschastiny, but avoiding the objectionable features criticised by Baumgarten and others.

Metschnikoff's observations were based, in part at least, upon experiments made by injecting tubercle bacilli into certain animals closely related to our gophers—the *spermophilus guttatus*. These gophers were thought to be especially refactory to tuberculosis, but it subsequently turned out, as shown by Welcker's new experiments, and already explained by Metschnikoff that the gophers are camparatively insusceptible to avian tuberculosis, but not to human, falling ready victims to the latter, and that Metschnikoff had employed cultures of avain tuberculosis in his work. Welcker consequently had to repeat the gopher experiments with the bacilli of avain tuberculosis in order to be able to test the results of Metschnikoff. Simultaneously with these experiments he carried along a second similar series, using the bacilli of human tuberculosis. Welcker planned these experiments so that some light might be thrown also upon the mode of origin of giant cells, and the question of their power of independent motion and of inclusion of foreign bodies. The same quantity of young, luxuriant pure growths of avain and human tubercular bacilli was injected into the abdominal cavity of the same number of gophers. After a varying length of time the animals were killed and fresh warm pieces of various organs, especially of the liver and the spleen, were examined microscopically upon a warm stage at the temperature of the body. Pieces from the different organs were also fixed and stained according to the best modern methods.

The general results obtained from these two series of experiments may be summarized as follows: After the injection of pure cultures tubercles develop in the same manner in the omentum of the animals of both the series and then, after a few days, in the liver and spleen. While the gophers treated with human tuberculosis show a process that gradually increases in intensity and accompanied with multiplication of the bacilli, those treated with the avian form present tissue changes that do not pass beyond a certain limit. The stimulus of the avain tubercle bacilli and their toxic products seems to exhaust itself, necrosis does not ensue in the foci of proliferation and emigration, and there follows a gradual involution of the tuberculous areas.

The first change observed after the injection was a small accumulation of leucocytes and then followed a proliferation of the fixed tissue cells recognized by finding karyokinetic figures in the connective tissue and endothelial cells. The epitheloid cells of the tubercles could readily be traced to the proliferating fixed cells, but also to large leucocytes. The presence of giant cells could be positivetly demonstrated on the fifteenth day after the injection. The size and the shape of the giant cells were found to vary very much. The same remark also applies to the number, the size and the shape, as well as the arrangement of their nuclei. In their interior there was found occasionally leucocytes, tubercle bacilli in rather small numbers and also yellowish, sausage-shaped bodies. As regards the origin of the giant cell Welcker concludes that they are formed by a fragmentation of the nucleus of an epitheloid cell, while the protoplasm of the cell continues to grow. At the same time he was not able to definitely exclude the possibility of their arising from the coalescence of several epitheloid cells because occasional appearances were observed in which the outlines of individual cells could still be recognized. There were no conclusive evidences noticed of karyokinetic division of the nuclei of giant cells.

Independent motion was not observed to occur in the living giant cells examined on the warm stage and the examination as regards this point

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was very thorough indeed. It will be recollected that Metschnikoff claims that giant cells are capable of ameboid motion and that he looks upon this as an evidence of their phagocytic action. This claim is consequently not supported by Welcker's results. Metschnikoff also claims that the phagocytic action of giant cells is shown by their containing, in their interior, bacilli tubercle that present peculiar changes of form and of staining reactions—changes that he believes are due to the action of the cells. Welcker found similarly changed bacilli in the interior of the epitheloid and giant cells of the tuberculous organs of the gophers he experimented with. Strangely enough, he found also that these peculiar, glistening, sausage-shaped masses give the iron reaction with sulphid of ammonium or ferrocyanid of potassium and hydrochloric acid. He believes that these bodies present tubercle bacilli that have been changed as a result of cellular activity, but he cannot definitely exclude the possibility that these evidences of degeneration occur in bacilli that have been acted upon by other not well understood, extra-cellular influences It is consequently not proven that in experimental avain or mammalian tuberculosis in gophers, the tubercle bacilli are destroyed directly by the activity of the cells and that a struggle takes place between the cells and the bacilli. Welcker was not able to find the products of altered tubercle bacilli referred to in tuberculous material from other sources than gopher tuberculosis. Material from various sources, such as the skin of lupus, was examined with negative results as far as this point was concerned. The principal conclusion to be drawn from Welcker's investigations are that certain gophers are very susceptible to mammalian tuberculosis, but relatively immune to the bacilli of avain tuberculosis; that giant cells are formed in the main from epitheloid cells whose nuclei have undergone fragmentation; that the giant cells in the tuberculous foci of gophers do not possess ameboid movement; and that the power of giant cells to destroy tubercle bacilli is not definitely demonstrated, although they frequently contain altered and apparently dead bacilli. The function of the giant cell in tuberculosis is consequently not well understood.—*The Journal of the American Medical Association.*

You want to make your preparations now to attend the Pan-American Congress to be held in Mexico City November 16th, 17th, 18th and 19th. The trip at that time of the year will certainly be delightful.

Laryngeal Complications of Typhoid Fever.

A discussion on this subject was opened by Drs. Kanthack and J. A. Drysdale. Dr. Kanthack, who read the paper, said the general situations of the ulcers were the tip and edges of the epiglottis and the neighborhood of the vocal processes. The assumption that the ulcers were decubital was set aside as erroneous. That they were produced by repeated injuries acting on debilitated tissue was more probable. That they were typhogenetic on the ground that the ulcerations affected the adenoid tissue of the larynx was incorrect, as in the above regions no such tissue existed. The evidence of the assumptions from analogy of other parts, such as periostitis and parotitis, that the typhoid bacillus produced the ulcers, was insufficient. The bacteriological evidence was very incomplete, and such as there was pointed against the specific typhogenetic nature. Clinical evidence, too, did not support this theory, as there seemed to be no relationship between the symptoms of the fever and the laryngeal lesions. The lesions were undoubtedly caused by micro-organisms. There was the strongest evidence that these were pyococci and not, with very rare exceptions, the typhoid bacillus.

Dr. Watson Williams, of Bristol, was of opinion that, while laryngeal lesions were sometimes undoubtedly the result of septic infection, they were in the main specific and due to typhoid toxin, for the following reasons: 1. As regards lymphoid tissue Cornil and Ranvier found, in the more acute forms of laryngitis in typhoid, that the lymph-follicles were tumefied, and there were nodules in which the infiltration and the multiplication of nuclei were entirely similar to what was observed in the follicles of the small intestine. 2. The frequency of initial lung symptoms in typhoid suggested a specific origin, and the typhoid bacilli had been found in the lung in numerous instances. Newman found them in the kidney in 11 out of 48 cases, and concluded that they appeared only in the urine when the kidney was directly involved. 3. The frequency and characteristic aspect of larynxgeal ulcers in typhoid, as compared with other exanthemata, pneumonia, etc., were strong evidence of their specific nature. The intestines in congenital typhoid did not present ulcerations due to the absence of saprophytic micro-organisms, especially the bacillus coli, which added to the virulence of the typhoid bacillus in after-life; so in the larynx the ulcer-

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ative process might be due to its exposure to the combined action of these bacilli. 4. It was hardly possible to account for the inoculation of certain cases except by aerial infection.

Mr. S. G. Shattock exhibited some preparations showing the typical situation of the ulcers. Having especially examined the point, he could say that normally there was no lymphoid tissue over the vocal processes of the arytenoids.

Dr. J. Horne expressed the opinion that ulceration of the larynx in typhoid was not necessarily of a tpyhoid origin. In some cases the ulceration had been found post-mortem to be of a tuberculous nature. Bearing in mind that tuberculosis more commonly followed typhoid than any other fever, it might be that typhoid rendered the laryngeal tissues more vulnerable to the attacks of the tubercle bacillus.

The president, Dr. Semon, asked why the cricoid cartilage was so frequently the seat of disease. There were several specimens showing this without disease at the processus vocalis.

Dr. Kanthack, in replying to Dr. Watson Williams, did not accept the statements with regard to lymph-follicles in the larynx. His own and other observations showed the absence, even in disease, of adenoid tissue over the processus vocalis and tip of the epiglottis. He desired to know what authority Dr. Watson Williams had for stating that the typhoid bacillus had been found in the lungs in "numerous instances" (Councilman and others). The presence of Eberth's bacillus in the blood during typhoid was generally acknowledged to be extremely rare. Its frequent occurrence in the urine was indisputable, but this was no argument that the tissues were generally infected. To argue from congenital typhoid was, in his opinion, to argue from the unknown. Dr. Williams assumed that the typhoid bacillus in the lungs produced no ulcerative lesions because it did not co-exist with the bacillus coli. Dr. Kanthack, on the other hand, had shown that it was always there; so, following Dr. Williams' own argument, necrotic lesions in the lungs should be common. Most authors had failed to find typhoid bacilli in suppurative and inflammatory complications of typhoid. With regard to the president's question, he was not prepared to answer without a little more thought and study, but he had always considered the cricoid perichondritis to be secondary to the ulceration over the processus vocalis.—*British Medical Journal*, March 7, 1896.—*Universal Medical Journal.*

Chronic Gastritis of Long Standing, with Periodic Attacks of Migraine.

REPORT OF A CASE. BY GEO. A. CURRIDEN, M. D., OF CHAMBERSBURG, PA.

The herewith reported case is one of double interest, inasmuch as the patient has been under my care for a number of years, and previous to the commencement of the present treatment I have been unsuccessful in affording much relief or preventing the recurrence of the frequent and periodic attacks of migraine, to which she had been more or less subject since early womanhood. The cause of which I could not account for more than "a habit long continned," aggravated by gastric catarrh.

The history of the case is briefly as follows: Mrs. A., age 55, since early womanhood has been subject to periodic attacks of migraine at intervals of two, three or four weeks, but seldom free from them for longer intervals.

An attack comes on by general malaise of usually a day's duration, repugnance of food or drink, marked drowsiness, much depression with request for rest and quiet, followed by complete physical prostration, dull frontal headache, which the least noise or disturbance makes the more intense, invariably accompanied by violent and frequent attacks of vomiting and retching, inability to retain any food or nourishment of any kind, retention of bowels, often cold sweats, pulse somewhat slow and weak and small in volume. This condition lasting usually two days, followed by gradual cessation of symptoms.

During the whole period of usually four or five days' duration she is unable to take nourishment of any kind, remains constantly in bed, and desires only complete rest and quiet. The previous treatment has been so varied and on so many different plans that I refrain from mentioning them.

Two years ago I was able to prevent an attack for over two months by the use of strychnine in 1-20 grain doses t. i. d. with careful diet and artificial digestive.

In May, 1895, I put her on Charles Marchand's "glycozone" in teaspoonful doses well diluted t. i. d., using this, as all other previous remedies, experimentally; she commenced to improve much in general health, an unusually good appetite, without the previous distressing symptoms following, a more regular movement of the bowels, freedom from headache, and in every way a decided improvement; this improvement and en-

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joyment of good health lasted during continuation of above treatment for over three months. Unknown to me she stopped taking the glycozone, thinking herself perfectly well. In a few weeks had a return attack, milder and devoid of gastric distress. A similar attack two months later, both of which occurred some weeks after stopping the above described treatment, and I might say caused by imprudence in diet.

The conclusion come to, in this case, is that the headache is sympathetic, that the stomach becomes acutely inflamed by its inability to naturally and properly perform its functions, and responds to the call of nature to unload itself, and thus secure for a time rest, that the use of glycozone has corrected the existing gastritis, and by so doing has removed the primary cause of these many years of suffering.—*Medical Summary of Philadelphia, Pa., for March, 1896.*

Cystic Degeneration of Kidneys Following Abortion.

On February 12th, 1896, at the Pathological Society of Manchester, Dr. Arnold W. W. Lea showed specimens and microscopic sections from a case of cystic kidney in which acute nephritis had developed as a result of septic absorption following a miscarriage at three months. The patient was admitted to Queen Charlotte's Hospital under the care of Dr. Grigg. When seen she had a temperature of 104°, and was evidently suffering from septic poisoning. The uterus was emptied, its contents being very offensive. The temperature fell next day to 99°, and never rose again above 100°. The urine, however, was very scanty, containing blood and epithelial casts; urea rapidly diminished in amount, and finally the urine was almost totally suppressed. Distinct tumors were felt in each lumbar region, and considered to be enlarged kidneys. The patient died in ten days from uræmia. At the necropsy both kidneys were enlarged (left 13 ozs., right 10 ozs). On the surface of the right kidney a few small cysts, and on the left a large number of cysts, were seen, most of them being about the size of a large pea, and containing clear yellow fluid. On section the cortex was much increased in thickness, the pyramids being atrophied; the capsules were adherent. Microscopically the kidneys showed chronic interstitial change, the renal cysts being compressed by cysts; glomeruli were scanty in number. An acute parenchymatous and interstitial nephritis had supervened. There were numerous capillary hemorrhages. In some sections the kidneys were distinctly fœtal in type; fibrous septa passed in from the capsule, and numerous imperfectly formed glomeruli were seen between the cysts. An abscess, probably recent, was found in the left ovary, and a fresh adhesion of a coil of intestine to the fundus uteri; no peritonitis. The case was evidently one of chronic cystic degeneration of the kidneys of adults, congenital in its origin. There was no history of any renal symptoms before this attack, and the patient might probably have lived many years had not acute nephritis, no doubt of septic origin, developed.

Problem of Work.

The current number of *The Annals of Hygiene* contains the last of a series of articles upon the Problem of Work, by Dr. E. C. Bailey, who presents the subject in an attractive, practical and forcible manner. The writer begins by pointing out that man, considered as a producer of energy, differs from the steam engine in that he possesses a fund of reserve power that enables him to labor for a time upon insufficient food; while the motion of the man machine is entirely dependent upon the fuel simultaneously consumed. There has been a progressive decline in the vigor of the race—a steady depletion of the surplus—due to excesses on the part of former generations and the ever-increasing pressure of latter day business and social life. The average worker is more or less dyspeptic, and cannot long maintain his normal productive capacity upon the crudely prepared viands with which he is usually served, and premature breakdown is inevitable. The physical tendency of the race is unmistakably downward. The prime essentials of the work of regaining lost vigor are: First, modern apparatus and instruments of precision in the kitchen—the factor of chance should be entirely eliminated from cookery. Second, perfection of culinary methods—the prepared food should be digestible and palatable, and the bill of fare varied. Third, a scientific adaptation of the nourishment to the physical needs of each member of the family—the plan of providing for all what suits the requirements of a portion only will surely eventuate in disaster to the weaklings. The fallacy of the popular theory that the pristine vigor of the race is to be restored by a universal resort to highly concentrated, chemically pure forms of food, is clearly shown, and a strong plea made for the recognition of the dangers already threatening, and the adoption of a practical method of solving the problem of work.

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Original Articles.

The Diaphragm.

By Byron Robinson, B. S., M. D., Chicago.

The first matter of surprise with every experimenter in the absorptive capacity of the peritoneum is that the chief point of active peritoneal absorption is the serosa of the diaphragm of man and other mammals. The discoverer of this significant anatomical and physiological fact was Dr. Daniel Recklinghausen in 1862, while experimenting on the peritoneum of rabbits. He demonstrated the matter by the use of Ag. No. 3 and by injections into the lymph spaces under low pressure. Later Recklinghausen showed that the lymph vessels of the diaphragm were intensely inflamed in puerperal peritonitis.

The method to solve the question of the power of the diaphragm to absorb is to take rabbits and inject the peritoneal cavity with Berlin blue suspended in fluid, and then to kill them from a few minutes to twenty-four hours afterwards. The diaphragm should be cut out and treated by various methods before examining it with the microscope. The method to test the normal absorbing power of the human diaphragm is to remove it as soon as possible after death and then to place on it various kinds of fluid, putting it to a microscopical test afterwards. To test the power of absorption of the normal diaphragm of rabbits I experimented chiefly with Na. Cl. 1 per cent. solution in Berlin blue (sufficiently for coloring), alcohol just sufficient to keep the Berlin blue in suspension. In an ordinary rabbit we injected into the peritoneum some four to six ounces of this colored solution at blood heat. The animals were killed 8 to 12 or 26 hours later. It may be stated that the coloring matter should not produce a diffuse color, *i. e.*, it should not be a solurble coloring material, but innumerable fine grains should be held in suspension in the fluid so that the grains will be carried into the subserous tissue by leucocytes and not be dissolved. Diffuse coloring matter would color all the adjacent tissue and obscure structures. After microscopic experimentations on the rabbit's peritoneum with the alcoholic solution of Berlin blue, one finds that the colored granules of Berlin blue have passed from the abdominal cavity to the subserous lymph channels in the diaphragm. The process by which the particles of coloring matter pass from the peritoneum into the lymph spaces is by stomata vera, which are so numerous on the peritoneal surface of the diaphragm. These stomata connect the diaphragmatic peritoneal surface directly with the subjacent lymph channels. The stomata are vertical channels, lined by granular germinal endothelium, one end of which terminates in the peritoneal cavity and the other in the subperitoneal lymph space. To experiment on a human diaphragm, cut it out of a fresh cadaver with as little trauma as possible, then suspend it by threads so that its abdominal surface is a depression or concave. Then one can pour on any kind of fluid desired, like milk, alcoholic solution of Berlin blue or carmine. Another plan is to place the diaphragm over a funnel with the abdominal side downwards, then fill the funnel with enough of the desired fluid to allow the diaphragm to come in contact with it. The colored fluid poured on the diaphragm, or allowed to remain in contact with it, should be tested at varying intervals, say, from ten minutes to a couple or more hours. In the rabbit the whole thickness of the diaphragm can be viewed through the microscope, while man's diaphragm is so thick that it must be split, or one can shave off a piece of the surface with a razor. I will here say that in quite a number of examinations of human diaphragms microscopically, I have so far never observed any difference between the

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diaphragm of man and mammals. However, most of my labors were with the rabbit and frog. I think Bizzozero states somewhere that the diaphragm of man and mammals is similar. Oedmansson states practically the same. It is suggested by Radjewsky, who labored under Recklinghausen's direction in his Strasburg laboratory, that a thin layer of the fluid for absorption should be poured on the human diaphragm so as to avoid any weight. Simply pour a thin layer over the abdominal surface of the peritoneum and leave it for 3 to 24 hours, after which wash it carefully in distilled water. One can snip off small pieces from its surface and examine it in a drop of glycerine, or it can be hardened with alcohol or Miller's fluid or osmic acid. Experiments on animals vary very much in regard to results obtained, which must be chiefly owing to the trauma the diaphragm suffers during the experiment. The significant structures of the diaphragm are its lymph channels and stomata vera. Its significant function is its absorptive power, inducing a fluid stream toward it in the abdominal cavity.

THE LYMPHATICS OF THE DIAPHRAGM.

The diaphragm is a vast bed of lymphatic vessels and spaces. Recklinghausen was the first to show the importance of the lymphatic system in the diaphragm. Ludwig, Schweigger-Seidel and Klein perfected his labors. The method we used to observe the lymph vessels were to kill a rabbit, pencil the diaphragm *in situ* on both thoracic and abdominal sides with a tooth-pick on which was wound a little cotton. The brushing should be done very gently, brushing the surface three to five times. The cotton brush should be wet in the serum of the peritoneal cavity. The rabbit should be carefully opened that the diaphragmatic surface may not be smeared with blood. Now pour over both abdominal and pleural surfaces of the diaphragm Ag. No. 3, solution of ¼% strength and allow it to remain in contact with the diaphragmatic surfaces 3 to 10 minutes then with a sharp pair of scissors carefully cut out the tendinous portion of the diaphragm, with the least possible trauma and place it in a vessel containing distilled water. For immediate examination snip off small pieces of the thinnest portion and mount in a drop of glycerine. If the experiment was carefully performed one could observe a beautiful network of large lymphatic vessels, especially on the pleural surface and frequently on the peritoneal. At first failures are liable to occur because one does not know just how to brush away the endothelia. The lymphatics are known by possession of numerous valves and their large size. One can preserve the specimen mounted in glycerine for a long time by renewing the glycerine or hermetically sealing the edge of the cover glass with melted parafine. For future use the diaphragm may be preserved in alcohol or 10% of formaline. One can observe vast areas of capillary lymphatics and channels on the peritoneal surface of carefully prepared specimens. To inject the diaphragmatic lymphatics take an alcohol solution of Berlin blue suspended in a 1% solution of Na. Cl. solution and inject a half ounce into a rabbit's peritoneal cavity at blood heat. Kill the rabbit 5 to 20 hours later and the lymphatics of the diaphragm will be found loaded with granules of Berlin blue. The colored granules will be observed to pass chiefly into the lymphatics in rows between the tendons of the diaphragm. The diaphragmatic lymphatics are divided into trunks and capillaries. The trunks or main branches have valves, while the capillaries do not possess valves; and it is by the test of valves that one distinguishes the vessels, also lymph capillaries possess very sinuous endothelia. The typical place of all the peritoneum to observe the lymphatic vessels is the pleural surface of the diaphragm. Sometimes one can note that the lymphatic trunks seem to narrow down like the point of a horn and dip downward, but this probably forms a narrow connection with some other trunk or perhaps its lumen narrows in order to pass between the tendons of the diaphragm to reach a lower plane. The vessels on the diaphragm are all intimately connected, constituting a vast system, though they are in several layers. If the specimen be carefully brushed and silvered one can observe on the interendothelial space which separates the endothelia of the vessel wall, dots and rings, stomata and stigmata, around which so much contention has existed for a quarter of a century. Into the great lymphatic trunks possessing valves pour the vast bed of capillary lymphatics, which we easily recognize by the sinu-

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ous endothelia. The lymphatic capillaries possess in the diaphragm peculiar lateral bulgings or excavations, which are very large at points. It is easy to recognize two kinds of capillaries in the diaphragm. One kind lies between the tendinous bundles of the diaphragm while the other lies immediately sub-peritoneal or sub-pleural. The capillaries lying between the tendinous bundles of the diaphragm are straight, possess lateral bulgings or excavations and are covered with a peritoneal endothelia more sinuous and irregular than that covering the adjacent tendon.

The lymph vessels of the diaphragm form meshes, so far as I can observe, the same in man or rabbit, directly under the endothelial surface. They seem perfectly analogous in all mammals. The lymph capillaries and blood capillaries differ so much from each other that they will be confounded, for the lymph capillaries are much wider than the blood capillaries. If some small lymph capillaries do resemble blood capillaries, the lymph capillary can soon be distinguished by following it up to a big trunk where the valves may be observed and the varicose swelling of the lymph vessel is characteristic of lymph vessels. The diaphragm shows meshes, quite crooked lymph trunks, which may cross each other at right angles, at which point a kind of lymph reservoir. The lymph canals in the diaphragm present many apparent variations, for they run between the tendinous bundles of the diaphragm, which consist of at least two layers. Now, these lymphatic systems belonging to each layer of tendinous bundles connect with each other by short vertical canals where they cross each other. The lymph canals between the bundles are very various, as is also their lateral bulgings. In experimental labors we found quite a difference between the colored granules filling the intertendinous lymphatics of the diaphragm and the lymph capillaries of the serosa not directly over or between the tendinous portion. The reason is that the meshes of the capillaries between the tendon bundles are larger than at other points. The mesh work of capillaries in the diaphragm differs considerable in size in different points. The lymph channels of the diaphragm are so numerous and vast that an alcoholic solution of Berlin blue being injected into the peritoneal cavity, in a few hours will make the whole diaphragm a dark blue by filling the lymph spaces. As the Berlin blue remains longer in contact with the diaphragm it produces more irritation (inflammation) and the lymphatic vessels dilate, the colored granules extend wider into the channels, and the color deepens, demonstrating that the diaphragm is a vast bed of lymph channels. Of considerable interest is the lateral bulgings or lateral excavations of the lymph capillaries which are found in the centrum tendineum. They generally branch off at right angles and may extend, club shaped or triangular shaped, in the lateral direction. Our own experiments on rabbits' diaphragms with Berlin blue demonstrated that the fissures or clefts between the tendinous bundles of the diaphragm were canals bounded by endothelia, were lymph capillaries enclosed by a nucleated endothelial membrane. Radjewsky demonstrated the same fact by the "puncture method," *i. e.*, by injecting colored fluid with a fine-pointed syringe directly into the intertendinous space under the diaphragmatic serosa and afterward examined by the microscope. He found that the colored granules followed exactly the space which the physiologic peritoneal injection did.

It is the diaphragmatic intertendinous straight lymphatic capillaries which manifest the pronounced absorption and deposition of particles of Berlin blue. The two systems or the various systems of lymphatics are connected in the diaphragm by short, straight lymphatics. Klein suggests that they act as pumps between the two systems. Muscatello demonstrated that five to seven minutes after coloring granules were injected into the peritoneal cavity it will be found in the diaphragmatic lymphatic.

In general the physiologic method of injection of the diaphragm, both the peritoneal and pleural sides are filled with the colored granules. But occasionally one side will show filling and these erratic or discreptant actions of the lymph vessels of the diaphragm I do not fully understand, for the experiments seem to be performed under fairly similar conditions. Of course the only explanation at hand is unequal effect of technique. A curious feature, not only of the diaphragm but of the whole, is the rapid accumulation and the rapid disappearance of fat. Fat lobules are simply connective tissue corpuscles distended.

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Fat globules may be observed in the diaphragm lying in the meshes of the lymph vessels. The fat globules accumulate along the blood vessels and make the structures non-transparent and it is observed that fat globules and lymphatic vessels are intimate relatives and exist in close association. In fact some authors regard fat tissue as a kind of gland tissue. Radjewsky showed by experiment that the diaphragm would absorb much more in a state of inflammation than in a normal condition. In the diaphragm of man and mammals I have frequently noted that closely under the serosa on either peritoneal or pleural side one can observe peculiar stellate formed objects, granular, almost identical to a connective tissue corpuscle. They are doubtless lymphatic canals, for in these spaces Berlin blue or carmine collect. These stellate, irregular lymph spaces are similar to the irregular spaces found in the intertendinous bundles of the diaphragm. Under low power the stellate-shaped spaces appear filled with a granular fluid. However, all experimental observers agree that the diaphragm has the special function of absorbing finely divided colored granules suspended in fluid. My own experiments demonstrate that other portions of the peritoneum have very little power to absorb coloring matter. Dubar and Remy have demonstrated that other points of the peritoneum than the diaphragm would absorb colored matter. Others have confirmed the work. Radjewsky, working under Recklinghausen's directions, has shown that the diaphragm is a special location of absorption and he drew some excellent cuts to illustrate his views. It had long been suspected that the lymph and blood vessels had a very close connection, and when Abbey, Auerbach and Eberth showed that the structure of blood and lymph vessels was similar, it heightened the belief in the experiments of Recklinghausen on the diaphragm brought out many new observations. But before this, Lessing and Fuhrer believed the lymph and blood vessels were connected, as they termed it, by plasmetic canals. Maffucci, by experimental investigation, showed a dozen years ago that there were several other places where absorption would occur in the peritoneum.

THE STOMATA.

It is on the diaphragm of man and animals, and especially on the mesogaster and mesentery of frogs, that all investigators observe the so-called stomata. The absolute typical stomata is found on the lymph sacs of frogs. So one observes a well silvered specimen of a rabbit's diaphragm through the microscope there may be observed certain peculiar structures which may be much more intensely than the adjacent endothelia. The structure often consists of two or more intensely colored endothelial cells, which surround an opening. There may be three to five granular endothelia surrounding the opening (stomata). One can observe a distinct oval nucleus in the cell. Klein called these intensely granular polyhedral cells which surround the stomata germinal endothelia. The peculiar cells which form the stomata are very irregular in number and distribution. Sometimes it appears that there is a single granular or germinal endothelium standing isolated and that by careful examination it may be seen that this apparently single granular endothelium is composed of several granular cells surrounding a small central opening, the real stomata. The stomata surrounded by the granular endothelia are very irregular in shape and size in the diaphragm, which is their typical locality. Sometimes one can only distinguish the cells surrounding the stomata by these granular conditions, for their size and shape do not differ, distinctively, from the adjacent common endothelia. The beginner had better begin with the frog's mesogaster, where the granular polyhedral cells surrounding the stomata are very distinct and so peculiar in shape and distribution that no possible mistake will long continue with the observer. The stomata on the cysterna lymphatica magna of frogs are, I am convinced, of a little different nature than those of the normal peritoneum. The stomata on frog's lymph sacs have regularity of distribution and number, are constantly present and of definite anatomic structure and can always be easily stained with Ag. No. 3. These might first be carefully observed. But the frog's mesogaster or less certainly the mesentery should be first studied for reliable knowledge to use in subsequent study in the increasing complexity of the peritoneum of the ascending animal scale. The stomata of the diaphragm are of significant importance on account of the results of experiments, viz., that the diaphragm is the only terri-

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tory of the peritoneum possessed of pronounced absorptive power. And all experimenters since Recklinghausen (1862) have recognized the phenomenal rapidity with which the centrum tendineum will absorb finely divided granules. The human diaphragm does the same, for I have cut it out fifteen hours after death and placed it in Berlin blue and it will show a blue color from absorption in a few hours.

The centrum tendineum or zona tendinea should be the portion examined. Though the peritoneum covering the diaphragmatic muscularis shows absorptive powers, it does not compare in capacity to the centrum tendineum. The blood vessels of the diaphragm form a rich plexus. The blood vessels are comparatively numerous as the lymphatics. They are derived chiefly from the diaphragmatic and intercostal vessels. The blood and lymph vessels are in close and intimate relation, as may be observed by the results of peritoneal injections, in the enormous and unnumbered emigration of leucocytes. Almost as soon as a foreign fluid is injected into the peritoneal cavity, the centrum tendineum begins to be swarmed with leucocytes to battle against invaders. For whatever induces a condition for leucocytes to wander out of the blood and lymph vessels into the peritoneum appears to increase their numbers, or perhaps it induces the leucocytes to congregate locally at points of irritation.

There are other localities of the peritoneum which furnish typical examples of certain structures, such as the omenta, the mesenteries, the tunica vaginalis. But we have mentioned them more or less in various portions of our book, perhaps sufficient. The frog's mesentery shows well the stomata vera, and typically the blood vessels coursing through lymph sinuses. The blood vessels are invaginated by the large lymph sinus. In other words, the blood runs through wide lymph spaces. Immediately under the peritoneum of the pylorus are wide and extensive lymph channels. The shape and size of the endothelia, the size and number of lymph channels, and the stomata vary very much at different localities of the peritoneum, and it would increase the length of this article too much to enter into characteristic details in regard to the various localities.

The great protector of the diaphragm is the leucocytes. They march to points of danger and attempt to surround the invader by burying him in leucocytes or exudates.

Prevention of Insanity.

BY MOSES J. WHITE, M. D., OF WAUWATOSA, WIS.

Medical Superintendent of the Milwaukee Hospital for the Insane; Clinical Lecturer at Wisconsin College of Physicians and Surgeons, etc., etc.

Presented at the fiftieth annual meeting of the Wisconsin State Medical Society.

The study of the prevention of insanity presents many problems of a most complex nature and most difficult of solution; in fact, it would seem an almost hopeless task, considering the various factors involved in the propagation of the disease.

The causes, both predisposing and exciting, which are operative in its production will have to be separately considered in order to gain a clear insight into the indications to meet in checking the advance of this dire enemy of the human race.

We are accustomed to hear assigned as causes of mental disease, shock, grief, loss of property or friends, fevers, etc. A sufficient argument against the fallacy of this assertion is the fact that the vast majority of people who at some period of their existence have been operated upon by one or more of these causes pass through unscathed.

The real solution lies in the fact of the element of heredity entering in as a factor and constituting the prime, predisposing cause. The doctrine of hereditary transmission is, with the laity and many members of the learned professions also, viewed in the light of skepticism; however, it can be safely asserted, on the strength of statistics obtained, that a vast proportion of cases of mental disease present this element. These statistics are most difficult to obtain, owing to the disinclination of relatives and friends to admit the existence of such a taint in the family for many and obvious reasons. It is a common experience of specialists in this particular branch of the profession to meet with concealment, evasion and even denial on the part of relatives in the pursuit of inquiry as to causes operating in an

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individual case. Usually some cause having the most remote connection will be assigned.

To some extent, however, the varying and conflicting opinions entertained as to what constitutes a condition of insanity, the latitude allowed for various eccentricities, and the broad range of thought, feeling and action deemed perfectly consistent with a state of sanity, must be taken account of. We have all, in our daily observation, undoubtedly met individuals who, though not judicially declared insane, and possibly not actively dangerous to the community—the average insane person is deemed potentially so at least—were nevertheless, in our opinion, as much if not more demented than many legally adjudged insane persons and inmates of insane hospitals.

The family physician, who makes a study of the individual member and relatively of the entire family, is in a position to judge intelligently of the peculiarities, the temperament and disposition of the individual case, and to attach due and proper significance to the manifestations presented. He is therefore in a position to aid in the work of prevention by furnishing timely advice and warning; directing the education and training of the young; advising the elders as to the methods of discipline, mental and moral, to be employed, and in his professional capacity and with the intimate footing obtained through long and faithful ministration his admonitions will assuredly to a great extent be of aid in preventing a lapse into fixed habits which are calculated to produce mischief in after life.

The alienist meets with the case usually after the mischief is set up, and simply endeavors to combat it and to promote, if possible, a return to healthy lines of thought, feeling and action; so that his part, as a rule, is secondary save in so far as by concentrated study of causation he can assist the general practitioner by directing attention to the more abstract idea of the same.

The prime factor in the causation of mental disease, as stated, is, in my opinion, an hereditary predisposition, resulting in mental instability and forming a productive soil for the development of insanity and allied disorders.

Scrofula, phthisis and syphilis play a prominent part in the production of mental disease, but I am strongly inclined to doubt the possibility of their occurrence in the absence of a predisposing influence transmitted, it may be, through several generations.

It is a biological law that "all beings endowed with life tend to repeat themselves in their descendants."

To quote further from Ribot on the subject of heredity: "It depends upon an internal principle of vitality which is so engraven on every portion of the system before birth that its influence remains through life, and within certain limits pertains to both the physiological and psychological nature."

It is a well-established physiological fact that certain diseases, such as scrofula and phthisis, are transmitted from one generation to another, in the form of a diathesis at least, which has been known to result in the final extinction of the family so affected. The tendency to intermarriage between the various nationalities is undoubtedly a saving provision in checking the ravages of these particular diatheses.

The same principle holds with reference to the purely psychological, only that where scrofula and phthisis have prevailed in the preceding generation insanity often appears in the succeeding generation.

Again forms of mental disease present a peculiar alternation; in one generation the form presented will be that of mania, while in the offspring the depressed type melancholia will be presented.

Time will permit of only a reference to the more important exciting causes, namely, alcohol, modern civilization and traumatic influences.

It is conceded by all authorities that the former plays a most prominent part in the production, not only of the insane diathesis, but acts also as a purely exciting cause, more particularly in cases due to traumatism.

The effect of civilization is readily apparent after a retrospect of conditions prevailing among the aborigines as compared with those obtaining in the higher states of modern civilization.

The drastic measures employed by savage races in the case of the physically or mentally defective would account in a great degree for the absence of transmitted taint; the philanthropy of modern civilization for the propagation of the defective class of beings.

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The discharge of insane persons from hospitals or of those partially or even wholly recovered—the latter more liable to a recurrence than one who has never suffered an attack—unquestionably perpetuates the activity of this disease; but sentiment, which is all powerful and the impulse of humanity, defeats the object sought, and this defective or damaged class of beings are constantly reproducing their kind.

I am not prepared to suggest any remedy at the present time which would meet with any prospect of successful accomplishment; moreover, it is an open question whether the constant infusion of new blood will not itself tend to check the ravages of this disease.

I think a great deal can be accomplished, however, in improved methods of education of the young. I would recommend every effort being made at individualization in the teaching; not instructing en masse; taking into account individual tastes and proclivities, and bending every energy to the development of those which predominate, not forcing a development of others for which no natural aptitude exists. The same method is to-day pursued in the treatment of the insane in hospitals and with most satisfactory results.

The admirable organization of boards of health in many of the states is accomplishing much in checking the ravages of diseases formerly unheeded, and these boards are entitled to great credit and ready support in their efforts. I regard this organization as the best medium of enlightenment for the people, and I would suggest that at least one member of every such board possess the qualifications enabling him to give expression to views on the subject of mental hygiene calculated to benefit the unthinking masses.

As set forth by the writer, in an article read at the annual session of this society in 1894, entitled "Provision for the Insane Awaiting Commitment," these efforts at prevention might be supplemented very materially by the establishment of outdoor departments for mental and nervous diseases in connection with the various hospitals in the state. There many cases might be checked in their incipiency and untold good accomplished in the way of prevention.

I am inclined to the opinion that very little can be accomplished in the way of prevention by legislative measures directed against the conditional discharge of insane persons from hospitals or against the marriage of persons who have passed through an attack of insanity.

I believe the most effective means to be employed in the work of prevention consists in the dissemination of knowledge on these subjects among the illiterate class of our population, and necessarily in a form which will be readily understood and appreciated.

The admission to hospitals of voluntary patients also would aid materially in checking the increase of insanity, as the most favorable period for successful treatment would then be presented.

I would take occasion to add a few words as to the increase of insanity in the last three decades; and I would say that if the subject is considered analytically it will be found that the increased ratio of cases to-day over that of thirty years ago will be partially accounted for in many ways.

First, the vast improvement in methods pursued in the modern hospital for the insane over those in vogue a decade or two previous; the more attractive surroundings, approaching as nearly as possible those of a home; the practically entire absence of mechanical and chemical restraint, substituting therefor physical exercise in the open air and pleasing diversions of various kinds, has all occas oned a revolution of sentiment on the part of the public and resulted in large numbers of this afflicted class being committed to the care of institutions who formerly were detained in their homes. Again, the philanthropy of recent decades has operated to swell the population of insane asylums by effecting the transfer to these institutions of vast numbers of the insane who formerly languished in poor-houses and like places of detention throughout our land.

Furthermore, many individuals who, in former times, were looked upon as being simply eccentric and who were allowed entire freedom of action have in recent years come to be considered as potentially, if not actively, dangerous to the community, and have, in consequence, been added to the list of registered insane persons.

Lastly, the ordinary accumulation of the insane in hospitals of to-day over that of thirty years ago will be found to constitute a very considerable

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factor in increasing the census; the more humane methods pursued in modern times; the better food and accommodations supplied; the greater degree of attention paid to heating, ventilation and cuisine and the stricter application of the rules of general hygiene, have all tended to promote longevity among this unfortunate class and thus to swell the accumulated mass of insane persons.

There is, however, an absolute as well as a relative increase in the number of insane to-day over that of thirty years ago; but not to the extent assumed and represented by many statisticians.

The decreased mortality rate of recent years has not been sufficiently taken into account by them in their computations; it is readily apparent that a decrease in death rate means an increased accumulation; also that the number of admissions reported in hospitals does not always represent the actual number of persons admitted, one and the same person frequently suffering a series of attacks, and thus tending to swell the number of admissions. This is a state of affairs which is misleading, but nevertheless unavoidable.

It is devoutly to be hoped that the subject of mental hygiene will, in the coming century, receive a degree of consideration, on the part of authorities and through them by the masses, equal to that given to sanitation at the present period.

With the tendency of the present age its import cannot much longer be disregarded. It will, in medical colleges and in scientific schools, assuredly receive the degree of attention which its importance to the welfare of mankind merits.

Therapeutics of Chronic Endocarditis.

BY W. H. NEILSON, M. D., MILWAUKEE.

Read April 14, 1896, before the Northwestern Medical Association.

In considering the therapeutics of chronic endocarditis, we must remember that we are dealing with a disease which is progressive and ultimately ends in the condition summed up in the expression "failure of compensation." We must also, for convenience and with reference to treatment, remember that we have the disease resulting as a primary affection from an acute endocarditis induced by articular rheumatism, chorea, some infectious disease or some pre-natal condition resulting in a congenital lesion, or as a secondary disease produced by the condition of the blood, as in alcoholism, lead poisoning, syphilis and Bright's disease, or by diseases of the lungs, as chronic bronchitis, emphysema or asthma. Whether it be primary or secondary, we have here a progressive infiltration of the valves, of the chordæ tendinæ and of the parietal intima, resulting in thickened, contracted deformities of those structures, eventuating in obstructions to the onward flow of the blood, its regurgitation or both; in any event a diminished supply of blood sent out to the capillaries, where the interchanges take place, to the seat of tissue metamorphoses. Having this condition nature seeks to supply the peremptory demand of the cells for more blood in which to bathe by increasing the force, and, if necessary, the frequency of the heart beats. So far so good; in this we will not interfere except in an advisory way. What nature has accomplished we must seek to maintain. It is a law that increased work brings increased power, and the heart, in satisfying the demand, accommodates itself to the new condition by gradually taking on new growth; it becomes hypertrophied. It occurs sometimes, however, that in taking on this new development, that a train of symptoms is set up of such distressing character that we are called upon to give relief. We find the heart's action exceedingly forceful; the arteries are throbbing, there is headache, anxiety and great nervous distress. Shall we give a heart tonic at such a time, digitalis for instance? Assuredly not. We would only make matters worse. There is too much hypertrophy, compensation is too complete. We give, in cases of that kind, sedatives to the heart. Aconite, veratrum viride, potassium bromide, and put the patient in absolute physical and mental rest. This class of cases we find following an acute attack when extensive damage has been done the valves in a short space of time and also when there has been a coexisting pericarditis resulting in adhesions which bind the pericardium to the chest wall. But in the majority of cases the changes in the valves are so slow that the heart muscle has the opportunity of gradually adapting itself to the new order of things, thus establishing compensation in so quiet and orderly a manner that very pronounced heart lesions exist without their being suspicioned by the patient and are

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only discovered by some accidental examination. It matters not what the cause of the lesion, whether it be primary or secondary, nature seeks to maintain compensation by bringing about an hypertrophy. So long as this hypertrophy retains its integrity so long will the patient enjoy immunity from annoying symptoms. There is a constant demand on the part of the system for oxygen, and it is supposed that one cause of increased arterial tension, so prominent a symptom in Bright's disease and in gouty subjects, is deficient oxidation of the tissues, that is, defective tissue metamorphoses, disturbing the affinity of the blood for the tissues. Now while for the heart increased arterial tension is a factor in inducing hypertrophy, it greatly increases the work of an already overburdened heart and hastens that failure of compensation so much dreaded. Again, when there is no arterial tension to contend with, the cry of the tissues is nevertheless always for oxygen. It becomes obvious, then, if we would lessen the work of the heart and delay the fatal day, we must supply the patient oxygen in unlimited quantities and lessen the demand for it in so far as we can consistent with health. Ideally then our patients should live out of doors, be restrained from arduous exercise and kept free from anxieties of mind.

A quiet life and a happy one, as nearly approaching pastoral simplicity as possible, is the ideal one for our patient with chronic endocarditis. Where this cannot be obtained, a few weeks or months spent in a tent where the air, devoid of draught, is filtered through the canvas will do much in resting an overtired heart and reducing the tension in the arteries. Along this same line is to be considered the diet. Food, which either by its quantity or quality requires an excessive quantity of oxygen for its metabolism, must be taken in moderation, for every molecule of oxygen robbed from the tissues means so much more work for the heart. Excessive amount then of concentrated albuminoid food should be avoided and equally, if not more, necessary is it to avoid large amounts of the carbo-hydrates, for they are insatiable robbers of oxygen. It is better to strike a golden mean and be moderate in both varieties. It is also absolutely necessary to maintain a normal digestion, as irritating acids and ptomaines, the result of stomachic and intestinal indigestion absorbed into the circulation, have an effect not only in increasing arterial tension but act as direct irritants to the heart itself.

You have all seen tumultuous action of a healthy heart during an attack of indigestion. Who will say that that was due to mechanical or mental causes alone? It is also necessary that the skin should be kept active, for its secretions retained throw extra work on the other eliminating organs and—upon the heart. Interference with the function of the skin invites rheumatism, which is so apt to aggravate an existing endocarditis. Frequent warm baths should be encouraged, but cold ones forbidden. But notwithstanding our efforts there comes a time when the heart begins to lose compensation. It does not matter what the especial lesion is, the symptoms will be the same—at first a crying out by the cells for more oxygen as manifested by dyspnœa on slight exertion. This symptom neglected, the dyspnœa increases, various digestive disturbances manifest themselves as a result of congestion of the portal circulation—an enlarged liver, congested kidneys. A slight cough, at first hardly noticeable but gradually increasing until the lungs become œdematous with frothy mucus, perhaps colored brightly with blood as in mitral obstruction, or perhaps brown induration or chronic bronchitis eventuating in bronchiectasis, necrosis, phthisis follows, all hastening the final ending, which is preceded by anasarca. With the first appearance of dyspnœa we must increase the oxygen-carrying power of the blood and increase the flagging power of the jaded muscle, not whip it up. Oxygen-bearing blood is food to muscle, and we must not only satisfy the demand on the part of the tissues in general for oxygen, but we must feed the heart. The heart failing in its force does not distend the aorta with each systole, hence the recoil of that organ so necessary to fill the coronary arteries is partially lost, so the poor heart struggles on sending a limited quota of blood food to the tissues and receiving less yet for itself. We overcome this by giving iron, that more oxygen be carried down with each feeble stroke, thus lessening the need of work, giving more time for the diastole, hence a fuller ventricle and a more distended aorta with each systole. With the more powerful systole the coronarys are

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better distended and the nutrition of the heart thereby improved. We supplement this by digitalis.

Digitalis slows the heart in diastole, permitting a better filling of the ventricles, and increases the power of the systole, thus insuring a better distribution of the blood to the systemic capillaries and to those of the heart. It acts thus not only as a nervine, but the heart is *strengthened* through its use. However, in causing more powerful contractions of the heart it also causes contraction of the arterioles, thereby increasing arterial tension. This we can overcome by the judicious combination of nitroglycerine in small, frequently-repeated doses.

When the loss of compensation is marked, is the combination of nitroglycerine and digitalis a most happy one. Of course anything which improves general nutrition will improve the tone of the heart.

To relieve the congestion of the portal circulation, as manifest by enlarged liver, intestinal and stomachic catarrh and jaundice, mercurials have a prominent place. A dose of calomel, supplemented by small doses of the bi-chloride in conjunction with the iron, will have a pronounced effect. The mercurial also aids the diuretic effect of the digitalis, and thus the quicker is the œdema reduced. It is surprising how quickly complete anasarca, even, will disappear after the exhibition of these drugs. I have also found nitrate of potassium a valuable adjuvant to digitalis in removing anasarca, especially when supplemented by some saline cathartic. But there comes a time when compensation cannot be restored, and then we must direct our efforts towards the relief of our patient, and a difficult task we have.

Attacks of dyspnœa become more and more frequent. We can relieve them for a time by the hypodermic administration of morph. gr. 1-8 with atropen gr. 1-120, the application of stimulating embrocations over the chest and kidneys, and bleeding, thus relieving the laboring right heart, thus preventing impending suffocation. The preparations of ammonia are also of use at this time, and if there be contraction of the arteries, of especial benefit is nitroglycerine.

Finally, however, we must give up the fight; our patient, unless mercifully cut off by a ruptured vessel, dies a miserable death of exhaustion and suffocation, and we are left to reflect on the futility of therapeutics against so relentless a foe as chronic endocarditis.

To sum up, then, our therapeutics consist of: Hygienic, embracing rest, physical and mental, an abundance of oxygen as obtained in out-of-door life, proper diet. Medical, iron to lessen the work of the heart by increasing the oxygen-carrying power of the blood; digitalis to rest the heart and give force to the systole; nitroglycerine to dilate the arterioles and as a stimulant; morphine and atropia to control dyspnœa and pain; mercurials and salines to reduce congestion of portal circulation, and, finally, blood-letting to avert impending suffocation. As adjuvants, strychnine, ammonia, diuretics as indicated, and in excessive hypertrophy sedatives. In cases complicated by or due to endarteritis of syphilitic or gouty origin, potassium iodide has a useful place. Some authors claim that potassium iodide is to the arteries what digitalis is to the heart.

Erysipelas.

BY W. H. OATWAY.

Thesis presented for final examination in Bacteriology.

Erysipelas may be termed an acute infective inflammation spreading along the upper layers of the integument of the body and mucous membranes through the lymphatic system. It is accompanied by a remittent type of fever and shows a tendency to recur.

This disease is known by different names, according to its position in the body, namely:

Phlegmonous erysipelas, when the virus does not confine itself to the superficial capillary lymphatics, but spreads to the subcutaneous connective tissue. Under this condition, suppuration, which is extremely rare in ordinary erysipelas, is likely to occur. The muscles, and even the bones, become affected.

Facial erysipelas, which at one time was regarded as idiopathic, is now generally acknowledged to be due to infection. This form appears about the nose and face.

Erysipelas neonatorium. This form usually begins about the region of the umbilicus, and may extend from the skin through the umbilical vein. Sometimes the mucous membranes of

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tongue and glottis are affected. Some authors classify this form separately. But they are all due to one and the same cause, namely, the *streptococcus pyogenous*.

Etiology. Although much less frequently met with since the introduction of antiseptics, it is the most common of the traumatic infective diseases at the present time. The contagiousness of erysipelas had been abundantly proven clinically before the true nature of the germ was understood. The disease has been conveyed to a large number of children through the medium of vaccine virus taken from a child affected with erysipelas. Instances of erysipelas carried from a distance to certain localities where no such disease had existed previously, and producing there an epidemic, abound in literature. The close relation between erysipelas and puerperal fever has long been recognized, and examples of the transmission of the virus of erysipelas to puerperal women by the medical attendant, and the consequent production of puerperal fever, are far too numerous. Both diseases are produced by the same germ.

History of Germ. Most investigators, as Baumgarten, Fraenkel and others, are of the opinion that erysipelas cocci and streptococci are identical, and should be regarded as such. This view is, however, somewhat objectionable. How can it be imagined that the same micro-organism causes at one time a typical and well-defined disease, and another time the establishment of purely purulent changes? The apparent contradiction may, however, be explained. On one hand it is found frequently in the saliva, in nasal secretions, in vaginal mucus, and in the urethera of healthy individuals; on the other hand, it regularly appears whenever the normal condition of the tissue is disturbed by some morbid process. It was seen to appear in typhoid and diphtheria as a "secondary" bacterium concomitant with certain changes. It gives rise to a mixed infection in pneumonia, tuberculosis, pleuritis, scarlet fever, etc.; it may in many be the cause of more severe conditions than the legitimate micro-organism. Finally the streptococcus by itself may produce sharply characterized inflammatory processes. When it reaches the valves of the heart it causes a typical endocarditis (hence a third excitor of infection); if transplanted to the endometrium of lying-in women it causes puerperal fever, and it does so exclusively, according to all investigations hitherto made; or entering the lymphatics and vessels of the cutis it gives rise to erysipelas; if admitted to the subcutaneous tissue or the serous cavities it produces purulent changes distinguished by a pronounced inclination to spread slowly and continue its existence without breaking down, and often manifests an especially malignant character.

Streptococci of erysipelas are small, completely round, globular cells possessing a pronounced tendency to grow into long chains. They always appear, in the culture as well as in the tissue, in extended, bead-like chains, embracing generally six to ten, but frequently even hundreds, of members. These chains of ten interlace in a dense coil or form elegantly arranged bundles. The single cells are of uniform size, though once in a while some members, on the point of dividing, are of a somewhat greater size. The erysipelas cocci are immobile, nearly so (some say slight motion), and have no spores. They thrive at common room temperature—more readily, of course, at higher degrees, as 30° to 37° C. They are not particularly sensitive to want of oxygen, but thrive best on the surface of the artificial media with free access of air. They are easily stained by the various analine dyes, and, like most micrococci, prove readily accessible to Gram's double staining.

The colonies under the microscope appear as round, yellowish-brown heaps, with sharp and smooth edges of a strangely granular structure of layers, sometimes ring-like.

For the purpose of obtaining large quantities of erysipelas cocci and keeping on hand sufficient material for culture, cultivation in bouillon is preferable. In this there quickly develops, at breeding temperature, a very luxuriant growth of beautiful chains of micro-organisms, sinking to the bottom in whitish, crumbling flakes, while the nourishing fluid remains clear. Only a vigorous shaking of the tube will disturb the bacterial masses and cause a transitory cloudiness of the bouillon.

Erysipelas can be reproduced from such artificial cultures in susceptible animals. Fehleisen,

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and many others after him, have produced successful transmissions to man for a particular purpose, surgical practice having often shown a striking improvement in malignant tumors which could not be operated upon successfully (especially sarcoma and carcinoma). The warrant for this treatment was the noticing that whenever the tumors came within reach of erysipelas arising from some other cause, they improved. Some authors even claim that the injection of erysipelas into animals affected with anthrax improves the conditions greatly and in some cases proves a complete cure.

We know that the cocci just described are the original excitors of erysipelas, and we must again turn to the question as to the manner in which the micro-organisms enter the body and their influence upon it.

It is certain that in the great majority of cases infection commences from lesions which are sometimes scarcely visible, from wounds of the integument having some way come in contact with the streptococcus. The conditions of this mode of transmission have as yet been but little investigated. We presume, but cannot say on the strength of facts, that in this case we have an accidental infection by micro-organisms largely diffused in the outside world, rather than a direct infection of a healthy individual by a sick one.

The cocci having once entered, the local changes characterizing erysipelas are produced, that is, progressive redness and swelling of skin. But severe general symptoms (as gastric disturbances and fever, nervousness) will sometimes appear from the beginning and during the whole process of the disease, which circumstances point to the action of a special bacterial poison, which we have not yet succeeded in separating, distributed over the body through the blood or lymph. A microscopic investigation of the diseased tissues reveals the cocci generally in considerable numbers at the edge of the inflamed region, which later usually remains free from them. They are confined almost exclusively to the lymphatic glands and vessels, which they sometimes completely fill, while the adjacent tissue remains free. Occasionally individual cocci appear between or within the cells; they are rarely noticed in the blood and organs.

Translations.

Perforation of Aorta by Revolver-ball; Migration of Projectile to Primitive Iliac.

A boy of 19 years, is shot in the epigastrium, by a revolver. There is no syncope; pulse good, intolerable pain in the epigastric region which radiates into abdomen and back; incessant bilious vomiting, tympanitis, no notable hemorrhage, but at every effort at vomiting, bile flows from the wound.

An exploratory laparotomy shows that the liver is perforated through and through, as is also the stomach. This latter wound bleeds abundantly. The ball is apparently lost in the posterior abdominal wall. Suture, toilet, etc. Death five hours later.

At the autopsy a vast ecchymosis is found to fill the whole prevertebral cellular tissue. The aorta is perforated just above the cœliac trunk, this orifice is torn, notched and closed by fibrim and débris of the artery's tunics. The posterior wall of the vessel is raised in form of cupola, but not perforated.

The ball is lodged in the primitive left iliac artery, at the division into internal and external iliac. The artery is dilated over the projectile. The ball is not deformed.

Cases like these are rare. In his treatise on *War Surgery*, Delorme says that "Perforation of arteries by small projectiles is generally *total* [complete] in this sense that both walls of the vessel, opposite, are traversed, altho' sometimes only a single wall has been involved and the projectile or portion of the clothing driven before it have obturated more or less hermetically the opening made in the vascular wall." Further on he adds, "Cases have even been cited in which the projectile fell into the interior of the vessels and played the role of an embolus (Moore)."—*Le Bulletin Medicale*, 1896, No. 6, page 70.

H. P. W.

Chancre of the Finger

Neumann presented an individual to the *Royal Imperial Medical Society* of Vienna, who in the course of a dispute with his son-in-law, had been bitten in the left ring finger. Fifteen months before this latter had contracted syphilis; secondary

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accidents had broken out several times, and particularly mucous patches of the tonsils, tongue and lips. A short time after this row the injured one saw develop on the palmer and dorsal faces of his finger an indurated ulceration; tumefaction of the ulnar lymphatic gland followed. Finally a roseolic eruption soon demonstrated the reality of that extragenital syphilitic infection.—*Le Bulletin Medical*, 1896, 5, page 58.

H. P. W.

Chylothorax.

The following rare case was reported by Prof. Erb to the Heidelberg Medical Society, and some very curious peculiarities are noted.

A man, aged 20 years, enters the clinic for dyspnœa, which a few days later becomes more acute. He recalls to have had, a month previously, a light pain, a stitch in the right side of the thorax, which, however, soon disappeared in a few hours. A year ago he came to the consultation for an œdematous tumefaction of the internal face of the thigh, and at the surgical clinic a cavernous lymphangiectasis had been diagnosed and a clear liquid was withdrawn by punction. The operation proposed was refused by the patient, and since then he wore an elastic stocking.

On examination it was easy to observe that his dyspnœa resulted from a vast effusion into the right pleural cavity, which had pushed the liver down and displaced the heart to the left. The other organs were normal, temperature normal, general health excellent.

Next day by puncture, two and a half litres of a yellowish white, fatty, lactescent liquid withdrawn, which, according to all macroscopic, chemic and microscopic characteristics was recognized as chyle.

Dyspnœa subsided after the punction, and both heart and liver resumed their normal positions. At the same time it was also noticed that the lymphangiectasis of the lower member, which extended from the root of the thigh to the ankle, became more flabby and somewhat smaller in size.

The day after the right pleura again commenced to fill up, and in three days the effusion was as abundant as before punction. A few days later a new puncture was made, which permitted the withdrawal of three litres of chylous liquid, with the same passive effect. Thus in a period of the week eight punctures were made, and thirty litres of chylous liquid were withdrawn altogether. Notwithstanding these repeated punctures the patient's general health remained good.

According to the phenomena observed an intimate relation appears to exist between the lymphangiectasis of the leg and the chylothorax. We might notably think that the dilatation of the lymphatic vessels of the limb continued into the abdominal cavity and mediastinum, and was manifested by the same cavernous ectasis in the thoracic canal and brachio-cephalic trunk, and that rupture of one of these dilatations could directly bring the chylous liquid into the pleura.

This supposition was verified at the autopsy of the patient, who succumbed in forty-eight hours from an infectious lymphangitis of the left lower extremity, happening fifteen days after the last puncture. It was notably found that the dilatation of the lymphatics could be followed through the abdominal cavity and mediastinum, just to the hilum of the lungs and pleural, whose cavities communicated freely with some lymphatics transformed into cavernous sacs. The left pleura also contained chylous liquid. *Per contra*, the pericardium and abdominal cavity contained none. —*La Tribune Medicale, 1896, 8, pp. 145-6.*

W., *Tr.*

Double Cyst of the Ovary in Three Sisters.

The following curious coincidence of cysts in three sisters is reported by Loehlein in *Monatschrift feur Geburtshilfe Gynœcologie* No. 2, 1896, and he asks whether it is mere chance or an effect of heredity. Medical literature rarely contains observations of this kind, perhaps, because the attention of physicians has not been sufficiently directed on that point.

In two of these sisters both ovaries had to be removed for cystic degeneration. In the third the abdomen once opened, was found only one diseased ovary; but fifteen years later—after the first operation—there developed in the period of eighteen months a voluminous cyst of the second ovary, and a new laparotomy had to be resorted to.—*Le Bul. Med.*, 1896, p. 219. W., *Tr.*

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Treatment of Vulvar Œdema.

Œdema of the vulva often occurs aside from syphilitic affections and other local affections, such as abscess, cancer, elephantiasis, blennorrhagia, etc.

Whatever cause the œdema may result from, it should be recognized for any local cause, and the treatment, in order to be effective, must be properly formulated to meet this complication.

For treatment two varieties may be distinguished; hard œdema without infiltration, œdema with infiltration—a frequent complication of labor.

HARD ŒDEMA, ELEPHANTIASIS.

In hard œdema, which may be compared to a beginning elephantiasis in which syphilis must always be suspected, the treatment is at once local and general.

I. Daily applications of the following ointment:

℞ Mercurial Ointment, 30 grammes.
Ext. Belladonna, 1 "
Ess. Bergamot, x drops. M.

II. Every morning take a prolonged sitz bath, to which is added a liquor glass of liq. Van Swieten; then wash the parts with tar soap, dry well with absorbent cotton, and during the day apply the following powder:

℞ Bismuth Salicylate, 2 grammes.
Powd. Starch, 30 "
Tannin, 4 " M.

Apply this powder several times during the day in such a way that the diseased parts are always protected against moisture.

III. The general treatment is very important, and must be kept up with perseverance, whatever be the origin of the trouble: syphilis, elephantiasis, struma, scrofula, etc. We employ preferably the preparations with sodie iodide for base:

℞ Sodie Iodide, 10 grammes.
Syr. Aurantii Cort. Amar., 190 " M.

Sig. A tablespoonful after the two principal meals daily.

Sea baths, hydrotherapy, sulphurous waters and baths, reconstructive regimen, tonics, cod liver oil, etc., are all useful, when applied as indicated.

ŒDEMA WITH INFILTRATION.

This variety of quite common vulvar œdema requires principally a purely local treatment.

IV. In the first place absolute rest is required; over the vulva apply a T bandage. Place a thick layer of cotton between bandage and vulva, to exercise considerable compression and reduce the œdema.

V. When the swelling is considerable it is well to intervene either by scarifications or with the Pravaz Syringe.

Previously wash the region with hot water and soap, and then apply a compress imbibed with a solution of sublimate (1:1000). Then numerous scratches are made with a very fine trocar, or, better yet, a Pravaz syringe, which permits the aspiration of the infiltrated liquid. The vulvar compresses are then renewed with boricated cotton.

This small intervention has always brought great relief without presenting any inconveniences. It may be renewed every time that is necessary. —*Journal de Med. de Paris, 1896, 2 Feb. L'Independence Medicale, 1896, No. 7.*

H. P. W.

Rupture of Uterus at the Cervix, Resulting from a Cicatricial Septum of the Vagina.

A woman, aged 27 years, at the end of her pregnancy, arrives at the maternity Sainte Etienne, in a dying state. Abdominal palpation gave to M. Brunon, the sensation of a fœtus free under the abdominal wall; in making vaginal examination the finger is arrested, after a normally formed vulva by a septum obstructing the vaginal cavity.

Extraction of the fœtus by the abdominal way is immedialy practised. The fœtus weighs 3 kilos. 750; it was slightly macerated, and was altogether lodged in the abdominal cavity, immediately in contact with the viscera and not contained in membranes. The placenta, also, was lying near an ovary but not adherent. The uterus formed a globe of the size of an adult fist and no solution of continuity appeared on the surface.

At the autopsy, in raising the uterus by the abdominal way, it became detached with remarkable ease and showed behind, quite at the level of the cervix, a rupture. The fœtus, normally engaged and descended, but held back by the septum of cicatricial tissue of the vaginal canal, and constantly forced by the violent contractions of uterus, had perforated the uterine

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cervix behind, dilated normally. The fœtus was then normally born into its mother's belly, by passing through the rent behind the uterus and then lodged transversely over it; the placenta had passed out the same way easily. The uterus then contracted and was retained in position by the transverse and anterior ligaments.

From inquiry the following history of the patient can be constructed: First labor three years previously, difficult; laceration of vagina followed by sphacelus and cicatrization of the walls producing considerable atresia, making impossible the extrusion of the fœtus at this labor; rupture of the uterus and death of mother from per acute peritonitis.—*Loire Medical*, 1895, No. 10; *Bull. Med.*, 1896, No. 6; 67. H. P. W.

Syphilitic Chancre of the Eyelids.

This variety of chancre, though being far from a curiosity, is yet sufficiently rare, and in the ophthalmic clinique of Montpellier, whose annual attendance is over 2,000 cases each year, the following one, reported by Villard, is the first one seen there since its foundation, eight years ago.

A young man of thirty years, having as antecedents only a urethritis in 1890 and a simple chancre of the penis in 1892. An immediate diagnosis was made of occular chancre, based on the following conditions: About twenty days ago the internal angle of the left eye became a little reddened, invading at the same time both skin and conjunctiva. Co-incidentally the patient felt a sensation of "gravel in the left eye," prickling, and the eye constantly *wept*. Some days later, at different times, violent headache came on, especially in the frontal region, setting in suddenly in the evening and lasting several hours.

Soon the inner angle of the left eye tumefied, became the seat of a small tumor, hard, not painful, which rapidly increased in size. Four or five days later appeared, in the pre-masseter region, a ganglion, very movable, painless at first, which rapidly increased in size and became painful.

Now the tumor is formed by two parts, rather indistinct, the upper the size of a large pea, the lower a little smaller; the two are separated by a shallow groove horizontally.

The skin covering the tumor is red and smooth. On palpation is felt a hard, non-fluctuating tumor, giving the impression of two large juxtaposed chalazions. This tumor is adhered to the skin, at whose expense it appears to be formed, and is but slightly movable on the deeper parts. Pressure is painful and causes no oozing of liquid from the lachrymal puncta.

When the two lids are separated it is noted that the shallow groove dividing the tumor is ulcerated on its external part; further, that the lachrymal caruncle, markedly congested, is increased in size and covered by muco-pus. Finally the eye weeps and the conjunctiva, bulbar or palpebral is a little injected. In the various maneuvers of the examination the dividing groove bleeds easily at its ulcerated portion (external).

The patient also presents a very marked swelling at the left masseterian region, whose skin is red, œdematous, but movable over the deeper parts. At this place is felt a glandular bogginess, painful on pressure. There is no fluctuation. The pre-auricular ganglion is not tumefied. Eight to ten days later a roseola began to develop.—*Nouvean Montpellier Medic.*, No. 48; *Le Bulletin Medicale*, 1896, p. 217. W., *Tr.*

A Rare Monstrosity.

The new-born was normally developed, of mean stature. This child was the sixth; all the others were very healthly. The parents, who belong to the working class, are healthy.

The skin is wanting over half the back; this region has the appearance of the epiderm having been removed by a very sharp knife, by detaching the skin from the muscles, and leaving only a layer of thin tissue, transparent, and similar to a spider's web. But through this thin and transparent layer can be seen, however, all the other tissues, vessels and nerves, giving the similarity of a living anatomical preparation.

The child cried constantly and suffered from digestive troubles, which the physician, Dr. Wallé, supposed to be in correlation with the cutaneous anomaly. The unfortunate nursling died at the age of 15 days, resulting from rupture of an aneurism.—*L'Independence Medicale*, 1896, p. 37; *Der Frauenarzt*, Jan., 1896. H. P. W.

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Enormous Tumor of the Testicle.

At the French Surgical Congress M. Heydewreich, of Nancy, presented the report of a man who for the past ten years had borne a tumor of the testicle of moderate volume. Last year, without appreciable cause, it rapidly increased in volume. When he saw the patient the tumor measured 25 centimetres in diameter, was fluctuating, not painful; in the corresponding groin the glands were enlarged, the penis had disappeared and its sheath had turned like a "glove-finger," dragged out by the development of the tumor.

He performed castration; ten litres—over 11 quarts—of liquid came from from the vaginalis; the testicle removed weighed three kilos, its parenchyma was whitish in color and was scattered with cysts of the size of a small nut; histologically it was a small celled sarcoma.—*Le Bulletin Medicale, 1895, No. 94, p. 1079.*

H. P. W.

Treatment of Soft Chancre.

Neisser has experimented in the treatment locally of chancroids by pure phenic acid cauterizations, recently lauded by Von Kerff. Very often the virulence of the sore disappears after a single application. In this treatment it is necessary to give special attention to the cauterization of the borders of the ulcer.

Cauterization by pure phenic acid has the advantage over silver nitrate of being painless, and does not cause a hard infiltration, which might become difficult to differentiate from indurated chancre, and, consequently, give rise to an unfortunate error in diagnosis.

After cauterization of the chancroid with phenic acid, Neisser dresses it with a one per cent. iodoform ointment, or with a little powdered iodoform. This first dressing is then covered with Peru balsam and silver nitrate ointment, which has the advantage of hiding the iodoform odor.

Neisser says that he has several times seen, in syphilitics, the soft chancre become transformed, in place, into a tertiary serpiginous syphilitic ulcer. In certain cases this induration might also be mistaken for a primitive indurated chancre. A diagnosis will be possible by the rapid effects resulting from the ingestion of potassic iodide.—*Berliner Klin. Wochensh.; Le Bulletin Medicale*, 1896, p. 170. W., *Tr.*

[Recently the Translator made some experiments in soft chancres on otherwise healthy young men, using the various preparations in vogue on some of the sores and protonuclein on the others. A typical case was the following: A healthy traveling salesman had six typical soft chancres on the penis, glans, corona and prepuce; one was thoroughly cauterized with pure phenic acid, and subsequently treated with bismuth—recovery in 15 days; the next was dressed with acetanilid exclusively—no suppuration, sore healed in twelve days; the third was treated by iodoform and was not healed in a month; the three others were treated by powdered protonuclein only and were completely healed in nine days. The dressing was done regularly at my office, once or twice daily. In numerous other trials similar results were obtained.]

WENZEL, *Translator.*

Pathology of Nervous Exhaustion.

According to Bouchard this exhaustion is due to auto-intoxication; Hayem says it is a vice of nutrition of dyspeptic origin; for Glenard, it is caused by enteroptosis; for Dumas, produced by vaso-motor troubles; for Féré, to a paroxysm of vibration overworking the cerebral cell; for Beard, to a defect of equilibrium between waste and repair of the cerebral cells; for Erb, to an intimate trouble of nutrition of the nerve elements; De Fleury admits the mechanical theory, which he subdivides into four stages:

1st stage. *Cause:* Immoderate expense of motor, activity or overwork by excess of sensation.

2d stage. Relaxation of the nerve cells.

3d. Muscular and glandular hypotonus.

4th. Modifications of the mental state consecutive to this condition of minor vitality.—*L'Independence Medicale*, 1896, p. 85; *Revue de Medicine*, February. W., *Tr.*

THE French Academy of Medicine has decided to divide the 250,000-franc prize founded by M. and Mme. Victor St. Paul as a reward to whomsoever should first discover a serous remedy for diphtheria, between Dr. Roux, of the Pasteur Laboratory, and Dr. Beleving, of Berlin.

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Section on Ophthalmology, College of Physicians of Philadelphia.

A stated meeting of the Section on Ophthalmology was held in the Lower Hall of the College of Physicians on the 18th of February, 1896, Dr. Wm. F. Norris, chairman, presiding. Present—Drs. G. Fales Baker, S. Solis-Cohen, Eshner, Friebis, Hansell, Harlan, S. Weir Mitchell, Norris, Oliver, Perkins, Randall, Ring, Risley, de Schweinitz, Shaffner, Thomas, Thomson, Zentmayer and Zimmerman, fellows of the college, and Drs. Cassel, Chance, Haden, Krauss, Mellor, Murdock, Posey, Rogers, Stevens, Sweet, Tait, A. G. Thomson, Thorington and S. Lewis Ziegler as guests.

Dr. S. Weir Mitchell read a paper upon "The Disabilities Due to Eye-Strain, as Viewed by the General Physician and the Ophthalmologist."

Dr. William Thomson gave a carefully detailed account of the ophthalmic conditions found in the case cited in Dr. Mitchell's paper. The patient, myopic in childhood, with diplopia at ten years of age, was corrected with astigmatic lenses and prisms when he was seventeen years old. He passed through college and studied law without suffering from much asthenopia. At twenty-four years of age he was hard at work professionally, and wrote a book of a thousand pages. Since that time he has had periodic headaches.

In 1887 the distress was so pronounced and constant that the patient was unable to do any near work. There was an esotropia of twenty degrees for distance with myopic astigmatism in the right eye, to which, in the left, there was superadded a slight conicity of the cornea situated below and to the inner side of the apex. His distant corrected vision equaled six-sevenths and a half of normal in each eye. The patient was ordered a partial correction of the myopia, a full correction for the astigmatism, with the addition of prisms equaling ten degrees with their bases out for constant use, aided by the substitution of the full amount of myopia and an additional prism-power of ten degrees more in over-fronts when distant objects were to be seen more accurately.

In spite of a year of out-door life in Colorado, which much improved his health, a few minutes' reading produced severe headache. As the refraction at this time was unchanged, a full tenotomy of the left internus, leaving but five degrees of esophoria for six meters and equilibrium at fifty centemeters, was performed May, 1888. All the prisms were removed except a five-degree prism strength from the distance glasses, resulting in an equilibrium at and within one meter's distance and an esophoria of five degrees at six meters. All strain had gone, allowing him the ability to read an hour each morning and to play tennis with the over-fronts on for several hours daily without fatigue.

About September the first sudden break-down took place, appearing as a violent headache, which lasted eighteen hours.

One month later the right internus was fully divided, leaving an esophoria of three degrees and an abduction of eight degrees. The patient did well until January, 1889, when violent headaches upon any attempts at any near binocular fixation came on. Sight and accommodation remained unchanged. The cylinder of the left lens was reduced and three degree prisms were added to the near glass.

Two years later the relief had become so entire and complete that, in spite of a large practice, lecturing twice a day and acting as dean of his college, the relief was complete and the patient enjoyed life.

In April, 1893, stronger partial correction, with four-degree prisms bases out for thirty-three centimeters, with full correction of myopia for distance, were ordered.

The patient remained comfortable for two years, when he returned with the statement that weekly and bi-weekly headaches, commencing during the winter, each attack lasting twenty-four hours and associated with sick stomach, had appeared. Vision and refraction-error remained unchanged. There was a return of esophoria, which now equaled thirteen degrees over that of his last correction, and which rose to thirty degrees with the naked eye. At this time the tendons of both of the internal rectus muscles were divided, obtaintaining an orthophoria for six meters.

These operations, with slight changes in the lens combinations, gave more or less relief for about a month's time, when it was found necessary to advance and excise three to four millimeters of the tendon of the left externus, reducing the esophoria to three degrees at six meters, orthophoria at one meter's distance being obtained. The patient never presented any symptoms of hyperphoria.

In six weeks' time, still remaining at work as president of a large corporation, in addition to his law practice, he reported the return of several headaches.

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One month later it was found that he had an esophoria of seven degrees. Prisms of three degrees each in over-fronts were ordered.

At this time the patient commenced to wear a patch over the left eye, thus preventing binocular vision, stating that this gave him much relief.

Six weeks later no hyperphoria could be found, corrected vision was normal, accommodation was full, abduction equaled nine degrees and adduction equaled thirty degrees. The refractive error had not increased.

At the time that the author read his paper he stated that, as the patient carried his head with his brow forward, there was a possibility that there might be too much supraduction. The headaches were frequent, and near-work was much limited.

He deemed that the condition of the left cornea lent doubt as to the best position for the placing of the cylinder-axis. He believed that further operations on the muscles concerned in binocular single vision would be still needed for relief which the patient had previously obtained for four years.

In contrast with this case of recurrent esophoria, Dr. Thomson cited an interesting example of esophoria with high myopia and astigmatism.

In this case, in three years' time, by careful correction of the refraction-error and muscle-disturbance, with a complete tenotomy of the right external rectus muscle, complete and entire relief from a series of aggravated local and general symptoms took place.

Dr. Thomson believed that in all cases of muscular asthenopia we are confronted with that last puzzle of binocular single vision which compels us to spend so much time and labor upon them. He further stated that the ophthalmic surgeon knows full well that the care of these cases merely begins when they are supposed by the public and general practitioner to have been finished by being glassed.

Dr. Charles Hermon Thomas reported a case of "Irregular Spasmodic Strabismus Dependent upon Esophoria." The patient, a young lady, had suffered much pain and distress in the eyes, accompanied with headache, from childhood. She had also been subject to occasional attacks of great distress in the eyes. These latter, however, were not of a painful nature, but were characterized by irregular, spasmodic contractions of the internus muscles, producing, while the attack lasted, a constantly varying strabismus accompanied by much confusion of vision and general nervous perturbation. Besides, she had been subject to severe coughing and strangling fits which were accompanied by weeping and violent convulsive movements, and which occurred at intervals during a number of years. The asthenopic pain and headache, especially, had always been of a very disabling character, interfering seriously with the use of the eyes in reading or other near work.

The visual lines, during much of the time, were manifestly parallel, but marked strabismus occurred when almost any change in the ordinary relation of the eyes was made; for example, as in taking off her glasses. Under the cover-test, convergence became extreme, and when the cover was shifted the target was not seen by the uncovered eye until winking had taken place; this being so even though the eye was found to be looking in the proper direction. During the time the eye failed to see the target, the pupil was in marked contraction, but the instant the pupil expanded to the same size as the other, the patient gave the signal that she could now see. (Evidently the excessive convergence was associated with spasm of accommodation and accompanying pupillary contraction.)

Broad homonymous diplopia, which was seen when a dark purple glass was placed before one eye, was neutralized by prisms that aggregated 8° base out. The phorometer showed an esophoria of 4° to 8°, and an abduction of 4° to 6°. No hyperphoria was manifest. With prisms aggregating 8° base out, movements of recovery under the cover-test were abolished, and she saw the target at once without previous winking. Prisms of this strength having been worn for a few days with comfort, and the heterophoric conditions remaining stable, operations were performed on both interni at a week's interval. The result was an abolition of the strabismus and of the esophoria and an abduction of 10°. The eyes could now be used freely and continuously as never before.

Two months later her husband wrote: "I am very glad to report that my wife's eyes are perfectly well and she has not been troubled with eye or headache since the operation." Her physician also wrote: "The patient is entirely free from the annoying and painful symptoms of her former trouble and is well and happy."

In conclusion Dr. Thomas said that he was confirmed in the belief that muscular errors are neither of more nor less importance in their rela-

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tions to asthenopic and general reflex symptoms than are refractive errors, and that equal relief is to be expected from appropriate correction in both classes of cases.

In the discussion Dr. Thomson stated that he agreed with Dr. Mitchell in the fact that the case first cited was not hysterical in type. He also called attention to the belief that lateral deviations were frequently dependent upon disturbances in the vertical muscles, and stated that such cases should not be confounded with ophthalmoplegias of hysterical origin.

Dr. Samuel D. Risley stated that he was very much interested in the papers, and that in his experience there was a relatively larger number of cases, especially in young school children and other persons doing many hours of work daily at the near point, where a careful study of the ocular balance would reveal a normal power of supraduction and infraduction, an actually diminished power of adduction, but who would, nevertheless, both with the Maddox rod and cover-test, exhibit well-marked esophoria. This contradictory condition will usually be found in association with either a spasm of or a diminished range of accommodation. In a few instances in his experience the anomalous condition had apparently been due to some foreign source of irritation, *e.g.*, a uterine displacement.

Dr. George E. de Schweinitz said that in connection with the first case reported he would like to call attention to the beneficial effects produced by the employment of large and increasing doses of tincture of hyoscyamus.

Dr. George C. Harlan had found that the great difficulty in cases of this kind was to discriminate between cause and effect, and that the majority of the various modes of treatment aim simply to relieve ever-varying groupings of symptoms. Dr. Risley believed that there was a special group of cases which were distinctly benefited by the systematic employment of adducting practice prisms. This type of cases, to which he has given the name of "Relative Insufficiencies," can be greatly relieved by prism training. In a second type, which he has denominated "Absolute Insufficiencies," he has found that there is no permanent result to be obtained from exercise treatment. Such patients may be taught to overcome high degrees of adducting prisms—40° or even 60°—and then fall back to their original condition. He accounts for this by reason of anatomical faults, such as abnormal tendon-attachment, inequalities in muscle-lengths, facial asymmetries, and osseous malformations, which, in some instances, in spite of operative interference, render comfortable binocular vision impossible.

Dr. B. Alexander Randall hoped that the terms now used to express the various conditions found in this class of cases might be bettered, and he believed that a decided step in dealing with such matters would be taken were a better nomenclature generally adopted.

Dr. Mason W. Zimmerman exhibited a new light-screen for dark-room use designed to permit regulation of the amount of flame exposed, and, at the same time, to reduce general illumination to the minimum. To meet all demands of exact skiascopy there is a working disk carrying four circular openings, respectively 5, 7½, 10 and 25 mm. in diameter, which are halted by a spring opposite the point of election in the flame. It carries two shutters: one is blank to prevent the escape of light when desired, while the other is fenestrated and provided with a backing of white porcelain glass, which gives a clear white image of the opening in the metal. The lamp is adjusted for the Argand burner, but can easily be made available for use with the newer "Welsbach."

The section then went into executive session. Upon motion, adjourned.

CHARLES A. OLIVER,
Clerk of Section.

THE RENAL CATHETER.—Dr. H. Kelly (*Maryland Med. Jour.*) states that the presence of stone in the kidney can be detected with the renal catheter. He uses a hard rubber bougie coated with dental wax, applied by dipping the bougie into the melted wax. He thus obtains a smooth glistening surface which shows the slightest scratch from the stone. He sometimes found it better to add a little olive oil to the wax. He also uses a catheter, coating its tip with wax, except at the eye, through which he can draw at will, fluid from any part of the kidney or ureter. He has made the diagnosis of stones in the kidney of many cases in this way. In introducing the bougie or catheter covered with wax, care must be taken that it does not strike the crystoscope, or any other object which might scratch its surface and so deceive the surgeon.—*International Journal of Surgery.*

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MILWAUKEE MEDICAL JOURNAL.

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Meeting of the Brainard Medical Society.

The Brainard Medical Society met at the Passavant Hospital July 7th, holding its annual meeting. The forenoon was taken up by a clinic by Dr. Mackie. He removed a cyst in the canal of Nuck which closely simulated a hernia and had been treated for such, and also performed an operation for the radical cure of hernia. After dinner, served by the sisters of the hospital in their usual good style, the regular order of business was held. A committee was appointed to draw resolutions of respect for the late Dr. Meacham, of Racine, who for many years was a respected and honored member of the society. The election of officers resulted in Dr. Fisk, of Wauwatosa, for president; Dr. F. C. Malone, of Milwaukee, vice-president; Dr. Hausman, of Kewaskum, secretary and treasurer, and Dr. Mackie censor for three years, to succeed himself The address of the retiring president, Dr. Reineking, was very well received and contained many good things. It deplored, especially, the spirit of commercialism that appears to permeate the profession, especially condemning men of reputation who allowed their names to be used in connection with proprietary preparations of doubtful utility.

Medical colleges which admit students illy prepared for the profession received a scoring and as a remedy was suggested that no member of this or other societies admit a student to his office unless he first passed an examination by the Board of Censors as provided by the constitution.

Medical journals which are manipulated by drug houses were roundly condemned as well as druggists who did counter prescribing and refilled prescriptions without an order to do so from the physician. The writer counselled greater care in the preparation of papers and suggested that prizes from the funds in hand be offered for original researches. Dr. Malone read a paper on concealed hæmorrhage preceding labor, followed by a complete suppression of urine for six days, terminating in coma and death. Dr. Mears gave an address on the care and repair of the perinæum and Dr. Feldt read an article on puerperal fever. These papers were quite thoroughly discussed. Dr. Kratzsch then read a paper on infant feeding. Dr. Sayle opened the disussion and was followed by Dr. Boorse, who dealt largely with the proper blending of fats and proteids.

Dr. Ivins Comfort presented a specimen of aneurism of arch of aorta which completely destroyed sternum and ribs, forming a large external tumor.

Dr. Kaumheimer presented a carcinoma of stomach. The case was unique from the fact that the patient was only 36 years of age, that the symptoms only covered a period of six weeks and at post mortem there was an opening into the cavity of the lesser omentum which must have been at least of three weeks' duration, as evidenced by its containing bismuth which was given three weeks previous to death. Altogether the meeting was a success. The membership is ninety-eight and twenty members were present. The next meeting will be held in the same place in October.

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News and Miscellany.

THE meeting of the Northwestern Medical Association, to be held at Milwaukee in the Milwaukee Medical College, promises to be one of interest. Several papers are to be presented, discussions to be held, medical, surgical and gynæcological clinics given and social features provided for. A general invitation is extended by the secretary to the profession of the state to meet with us in Milwaukee and become members. This society numbers seventy active members embracing the leading men of the central and northern portion of the state and holds quarterly meetings. These meetings are full of matters of practical interest, and are appreciated, as is evidenced by the good attendance and thoughtful discussions. The meetings are held on the second Tuesdays of July, October, January and April, and for this coming year the places are Milwaukee, Medford, Wausau and Stevens Point, respectively. Dr. Zeit, the genial secretary, promises a fine entertainment at Medford in October. In addition to the medical programme and the best hotel accommodations in the state, he promises unlimited sport in hunting deer, bear, quill pigs, etc. And when you consider the superbness of our Wisconsin autumn, with its exquisite coloring of the foliage, the crispness of the October air in the northern latitudes, it would seem that that alone was sufficient to induce the necessary sacrifice of time.

* * *

As medical men we fail to appreciate the personal application of the gospel of rest, which we so assiduously preach to our worn-out patients; we fail to see that we ourselves are often more in need of rest than our patients are. We put in long, painstaking, care-taking hours, our little rest many times broken by some unreasonable or hysterical patient, and yet wonder why we are irritable, why our judgment fails and utterly fail to recognize the fact that we are *tired* both in body and mind, and that we should leave for a while our cares and seek physical and mental equilibrium in some secluded nook of our own incomparable state. What need of making extended trips to secure rest and recreation, while we have within our own borders air the purest and most invigorating, springs of crystal, most healthful, lakes and streams and noble rivers, hill and dale and rocky bluffs, stretches of primeval forest abounding in game, and the great inland seas bearing the commerce of an empire, embracing our north and east. Surely ours is a favored state and calculated by nature as a health resort.

* * *

THE doctors of the city are gradually succumbing to the seductive influences of the wheel. While we have had enthusiasts for some time in Drs. Washburn and Burgess, we now see doctors by the score astride the festive wheel. It is amusing to note the divergent reasons the gentlemen give for taking to the bicycle. With one he desires to reduce his obesity, another to put on flesh, a third has varicose veins, a fourth cobwebs in his brain, while with still another it is his kidneys, and yet another his liver. All kinds of pathological conditions are made to do duty as an excuse for riding—as if an excuse were necessary.

* * *

THE many friends of Dr. Jos. A. Bach will be pleased to know that he has taken unto himself a life partner. He was married at West Bend, June 23d, to Miss Catherine Pick. THE JOURNAL extends most heartfelt wishes for their happiness and prosperity. There are several bachelor doctors in Milwaukee who have been bachelors lo, these many years. We trust that Dr. Bach's example may be emulated, thereby increasing the ranks of the benedicts.

* * *

THE twenty-second annual meeting of the Mississippi Valley Medical Association will be held at St. Paul, Minn., October 20, 21, 22 and 23, 1896. The meeting promises to be the largest in the history of the association. Many valuable papers will be presented and it is hoped that all who have time to prepare a paper for this meeting will send the title to H. W. Loeb, M. D., secretary, 3559 Olive Street, St. Louis, Mo.

* * *

A BALTIMORE preacher was paralyzed the other day while preaching. Had it been Col. Ingersoll while lecturing! exclaims the *Mexican Herald*.

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THE following resolutions were unanimously adopted at the fiftieth annual meeting of the Wisconsin State Medical Society, held at Madison, June 3d, 4th and 5th, 1896:

WHEREAS, The members of the Wisconsin State Medical Society are governed in their professional conduct by the principles of the Code of Ethics of the American Medical Association adopted by this Society;

WHEREAS, The following methods of gaining public attention have been resorted to by members of this Society, and are considered unprofessional and inconsistent with the underlying principles of the Code:

1st. The display of name upon *play bills*, *posters* and *advertising directories* for public inspection;

2d. The publication in the daily newspapers of cases, operations, scientific experiments, or other matters of purely professional character, for *the evident purposes of self-aggrandizement;*

THEREFORE BE IT RESOLVED, That this Society condemns such methods on the part of its members, as being in violation to the code to which they have subscribed.

* * *

DR. H. M. BROWN leaves town on a vacation of a few weeks.

* * *

THERE is quite an outbreak of entero-colitis among the children, and also of bronchitis, while mumps and measles have been adding their quota to make juvenile life miserable. There appears to be very little scarlet fever or diphtheria in the city.

* * *

THE State Board of Health has been paying its respects to the Menomonee valley, and finds it in rather a loathsome condition. It will hardly be otherwise until a better system of sewerage is adopted, and there is no telling when that will be. The mill of the city fathers grinds very slowly.

* * *

THE city Health Department is having a comparatively easy time just now. This has allowed the Commissioner time to render his salary bill for the time he was ostensibly out of office. The taxpayers, no doubt, relish the prospect of paying for "goods not delivered." Where is Alderman Rudolph?

Book Review.

July Monist.

The leading and concluding articles of the July *Monist* deal, under different but not contradictory aspects, with the problem of good and evil. The first, by Dr. Woods Hutchinson, formerly of the University of Iowa, now of the University of Buffalo, and a member of the Episcopalian Church, is entitled the *Holiness of Instinct* and forms an eloquent plea based on the testimony of evolution for the installment of our natural instincts as guides in moral conduct. Professor Hutchinson's article is a brilliant apotheosis of the beauty and joy of life and should be left unread by none who would grasp or corroborate the moral upshot of the doctrine of evolution. The last article by the editor, Dr. Paul Carus, grapples with *The Problem of Good and Evil* from a scientific and philosophical point of view, showing it to be a positive aspect of life as opposed to the current impression that it is merely a subjective and illusory species of existence, and contrasting the God-idea and the Devil-idea as two of the most significant and potent factors in human advancement. He regards the figure of Satan in religion as not an idle fancy, but as a mental and mythological symbol of very important objective facts.

Professor Eucken of the University of Jean contributes a fascinating article on *Philosophical Terminology and Its History*, wherein he portrays the curious vicissitudes in the biographies of scientific words and shows how some of the commonest phrases of life have had their origin in the ponderous phraseologies of schools, have been the outgrowths of quarrels, whims, and accidents, and again the living and distinctive expressions of history.

A powerful and suggestive article on *Causality* by Prof. Fr. Jodl, formerly of the University of Prague, but recently called to a Chair of Philosophy in Vienna, submits to exhaustive analysis the ideas of David Hume and his followers, Kant and the Kantians. Professor Jodl digs down to the root of the notion of causality and discovers the same in our feeling of personal effort and personal action upon the outer world, finding its justification in the revelations of modern science concerning the conversation of energy.

Perhaps the most interesting essay in the present *Monist* as regards the wealth of facts presented, is that by the noted French anthropologist, Dr. Paul Topinard, who in continuation of a series

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of articles on *Science and Faith* writes on the conditions which precede man's becoming a member of society, which latter subject he will discuss later. The present article, which is limited to the animal world, discusses the origin of sex, the various phases of reproduction, and all the aspects of animal family-life, which the author takes to be merely the outward terminal phase of the process of reproducing the species. The origin of the unity of the animal organism and of the ego, as also all of the social instincts, are exhaustively discussed.

There is the usual literary correspondence from foreign countries, and book reviews in all branches of science, philosophy, history, religion, and ethics, including the contents of all the main philosophical periodicals, foreign and domestic. (Chicago and London; The Open Court Pub. Co.)

AMONG the notable series of articles announced by *The Open Court* for the current year is Count Leo Tolstoi's *Christianity and Patriotism*, a searching and luminous sketch of the origin of patriotism in European countries, and of the methods by which it is fostered and perverted by governments for the attainment of their selfish ends. Count Tolstoi regards the sentiment of "patriotism," so-called, as incompatible with Christian notions, and gives in justification of his views a profound analysis of the fixed and irrational habits which support despotic governments. The publication of the articles, which were written on the occasion of recent demonstrations in favor of the Franco-Russian alliance, was interdicted in Russia, although they appeared in the Russian language. Count Tolstoi's utterances, while to some they may seem surcharged with his own peculiar views of Christian anarchism, nevertheless contain matter which may be taken to heart by all nations. The series will begin immediately.

The same journal announces a rare novelette by Richard Wagner, where the great composer clothes his philosophy of music in the vestments of romance, and later a translation of the famous portraiture of Luther by Gustav Freytag. (Yearly $1.00. The Open Court Publishing Co.; Chicago and London.)

THE Three Ethical Codes. That of the American Medical Association; its constitution, by-laws, amendments, etc. That of the American Institute of Homœopathy and that of the National Eclectic Medical Society. Limp cloth, round corners, 55 pages, postpaid 50 cents. The Illustrated Medical Journal Co., publishers, Detroit, Mich. By comparing the code of the Homœopathic Society with that of the American Medical Association, it will be found that several sections of the former are similar to the latter's code. The Eclectic code is worthy of mention for its brevity.

Publishers' Column.

A Doctor's Carbuncle.

I thank you for the box of "Sennine." It came just in time for me to try it on myself in a malignant carbuncle which had caused me much suffering. It affords me pleasure to state that "Sennine" has benefited me more in three or four days than any of the many antiseptics I have used, among which were iodoform, antifebrine and aristol, so you can see that SENNINE has the best standing with me, and I cheerfully commend it to my brother practitioners. Yours very truly,

R. M. WELLS, M. D.,
Plant City, Fla.

Dios Chemical Co., St. Louis, Mo.

Kola-Koloid.

Editor Prescription:

In a late issue of the *Prescription*, Dr. Johnson calls attention to the use of kola-koloid in a case of melancholia. Although I have never used it in cases of insanity of that nature, I have repeatedly seen a marked effect in the amelioration of those minor cases of melancholy called the "blues." Frequently after a single dose the whole moral atmosphere will be changed. The preparation, one of Theodore Metcalf Co.'s, has a wide therapeutical range, being applicable in a large number of cases where mental or physical exhaustion are prominent symptoms. I have had occasion to test its value in my own case during the past year.

There never was a more comprehensive description of La Grippe than the Hibernianism. "It is a disease where you feel worse when you are getting better, and it takes six months to get well after you are cured." Those who have had a personal experience with the disease can appreciate the truth of it.

After an attack of grippe I found nothing in the nature of a tonic and stimulant which acted so beneficially as kola-koloid. This combination has

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greater efficiency than any other, and what is of great importance, no drug habit is engendered. When the necessity for its use is past it can be discontinued at once.

W. E. ANTHONY, M. D.

Providence, R. I., May 14, 1896.

Dysmenorrhœa.

In the March number of the Alabama *Medical and Surgical Age* is a very interesting article on dysmenorrhœa by G. C. Chapman, M. D., of Birmingham, Ala., which we hope to soon reproduce in our journal. Speaking of various methods of treatment, the doctor says: "But the remedy that has proven the greatest boon to my patients has been Dioviburnia given in tablespoonful doses, four times daily, beginning four or five days preceding the expected attack and after the flow is established, every two or three hours."—*California Med. Journal, May, 1896.*

"One of the Certainties of Medicine."

Belcher Hyde, M. D., of Brooklyn, N. Y., writes: "Antikamnia is an American product, and conspicuous on this account and because of the immense popularity which it has achieved. The literatuae is voluminous, and clinical reports from prominent medical men with society proceedings and editorial references attest its value in actual practice in an endless variety of diseases and symptomatic affections. The fact stands incontrovertible that antikamnia has proven an excellent and reliable remedy, and when a physician is satisfied with the effects achieved he usually holds fast to the product. Antikamnia is one of the certainties of medicine. This is the secret and mainspring of its success."

SENFFT: THE ACTION OF LACTOPHENIN (*Weiner Med. Presse, 1896, No. 50*). The author reports a large experience with this drug in the treatment of children. He has used it as an antipyretic in pneumonia, bronchitis, typhoid fever and diphtheria. It reduces the temperature promptly, and he reports no untoward effect on the stomach or depressing effect on the heart. Because of the last named advantage he has substituted it largely for other antipyretics for children. To infants of one year he gives three-fourths of a grain; at four years he gives one-fifth of the adult dose.—*Archives of Pediatrics, June, 1896.*

PEREKHAN, J. S.: FERRATIN, IRON TONIC AND FOOD (*Chicago Med. Recorder, January, 1896*). The author reviews the literature on ferratin, quoting Schmiedeberg, Germain See, Dujardin-Beaumetz, Marfori, Jaquet, Fackler, Einhorn and others, and then cites a case of anemia in his own practice, "because the improvement under the use of ferratin was so striking as to merit special mention." Patient, a girl of 17, became anemic after an attack of grippe, lost her appetite, etc.; condition on November 15th as follows: face pale, of waxy color, lips and conjunctiva almost white, headaches, insomnia, constipation, shortness of breath, bad appetite, etc. Half gramme doses three times daily, with hygienic regulations, caused improvement after first week, and gradually her appetite returned, headaches and insomnia disappeared, red color was restored to lips and face, and within five weeks the blood corpuscle count showed an increase from 2,100,000 to 4,150,000 per ccm. Author concludes that "Ferratin can be safely recommended as a hamatinic remedy, with suitable diet, hygiene and exercise not to be neglected."

The Uses of Phosphoglycerate of Lime.

Although discovered by Pelouze in 1846, this salt has not been used therapeutically until last year, when Dr. Robin showed before the Academy of Medicine that it provides the organism with phosphorus in a form identical with that in which it occurs naturally in the organism.

This authority found that it increased the proportion of solids in the urine, giving a powerful stimulus to the function of nutrition, and from careful clinical observations he deducted that Phosphoglycerate of Lime is useful during convalescence to restore enfeebled vitality, in nervous affections associated with an excessive elimination of phosphates by the urine, and more especially in neurasthenia.

In chlorosis, characterized by a lowering of nitrogenous oxidation, in phosphatic albuminuria and in the treatment of cachexiæ of all kinds. Administered in daily doses of five grains in a case of Addison's disease, it overcame the characteristic debility, and the patient gained seven pounds in weight during twenty days of treatment.

In ataxia the phosphoglycerate markedly diminished the excruciating pains and attenuated the other symptoms, and in gastric hyperasthe-

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sia, acute sciatica and tic douloureux it gave most encouraging results.

One of the most remarkable properties of Phosphoglycerate of Lime is its aphrodisiac action on the genital organs, and in debility and decreased vital energy.

This has been especially demonstrated in India where early marriages and excesses before full development, combined with an exclusively vegetable diet into which very little nitrogenous food can enter, leaves natives of India almost totally impotent at an age where in temperate climates they would be in their full vigor.

The effects of pure Phosphoglycerate of Lime are at the least as energetic as the testicular fluid which only acts in virtue of the organic phosphorous which it contains. It is, therefore, more advantageous to employ the Phosphoglycerate of Lime in place of the above liquid, which is extremely variable and alterable, especially as it may be taken by the mouth.

Chapoteaut has succeeded in making a pure Phosphoglycerate of Lime, and this may be prescribed in the form of wine, syrup or capsules. The dose is from 3 to 6 grains with meals.

Wounds of the Peritoneal Cavity.

Dr. Tiffany lays down the following propositions:

1. A penetrating wound of the peritoneal cavity is not accompanied by symptoms commensurate with the extent of the injury.

2. Many fatal lesions may be present, yet give rise to no marked symptoms.

3. Fatal lesions may exist, yet shock be wanting.

4. The wound of entrance should be enlarged, and, if the missile has entered the abdomen, a section is called for.

5. Operation is proper soon after the injury, before peritoneal membrane has become infected, or much blood lost.

6. Flushing the open peritoneal cavity with hot water or hot, normal salt solution is an excellent stimulant to the heart.

7. The abdominal wound should be closed, when practicable, without drainage.—*American Jour. of the Med. Sciences.*

DR. FRED. WEBER has been quite ill, but is again on the highway to recovery.

Selections.

Some Remarks on the Surgical Management of Acute Diffuse Peritonitis.

BY JOHN YOUNG BROWN, M. D., ST. LOUIS, MO.

Fellow of the American Association of Obstetricians and Gynecologists.

Read before the Missouri State Medical Association at Sedalia, May 20, 1896.

The amazing progress made in surgery in the last few years must be satisfactory to all concerned. In no branch of surgical science has this progress been more marked than in the management of intra-abdominal inflammation. Prominent among the factors leading up to this success has been the gradual acceptance by the medical practitioner of the doctrine that peritonitis, whether local or general, is from its inception a condition demanding the supervision of the surgeon. Localized pus accumulations and circumscribed peritonitis have long been successfully dealt with, but it is only lately that those desperate cases of diffuse septic peritonitis have been considered worthy of surgical interference; it being generally accepted (save by a few operators) that "they all die"—whether operated upon or not. That this last proposition is a fallacy, it is only necessary for proof to contrast the brilliant results of the modern surgical management of this condition with the dismal mortality of the past. As far back as 1888 Mr. Lawson Tait, in a paper read before the Midland Medical Society, presented a series of eight cases of acute diffuse peritonitis of the most desperate character, treated by section and drainage, with six recoveries. I have a number of times seen my distinguished teacher, Dr. Joseph Price, operate on similar cases, with results equally as brilliant. Recently Dr. McBurney, of New York, in a most interesting article, reports twenty-four cases of diffuse peritonitis following perforating appendicitis with fourteen recoveries. Dr. McBurney has this to say: "Up to two years ago I had regarded all these cases of diffuse peritonitis as nearly hopeless, although to be sure an occasional case recovered after operation, removal of fluid and thorough drainage. I remember that I once made the statement that we could hardly expect any such cases to get well, because before the operation was done the individual had already become so septic as to be beyond the reach of surgery." That the mortality following operation for the relief of this condition must necessarily be large there can be no question. Many of these cases are seen too late; in others the sep-

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tic process has gone so far that the case is hopeless, but that the majority of them can be saved by early operation, careful cleansing of the abdominal cavity, copious irrigation and proper gauze and glasss drainage, the cases above reported prove. The following case is of interest in this connectiom:

I was called to see Mrs. B——, age 48. Her health prior to date of attack had been poor. She had been treated for malaria and bladder trouble. On September 1st, 1895, she had a severe chill, followed by profuse perspiration and great prostration. She complained of intense pain in the right lumbar region, and in the neighborhood of the bladder. The urine was diminished in quantity, foul smelling and loaded with pus. On examination a boggy tumor in the region of the right kidney extending well down in the right iliac fossa could be distinctly mapped out. The tumor, from its location, could easily have been mistaken for an appendiceal abscess. The patient gave no history of renal trouble, and had never passed any calculi, and had up to the last two months been doing light work about the house. The absence of other symptoms of appendicitis, the large quantity of pus in the urine, together with the location of the tumor led me to make a diagnosis of pyonephrosis and peri-nephritic abscess. My friend, Dr. H. Horace Grant, of Louisville, saw the case with me on the evening of September 12. He concurred in the diagnosis and advised immediate operation. I accordingly, on the morning of the 13th, assisted by Drs. Sims and Rogers, and in the presence of Drs. Weatherbee and Pusey, did a lumbar nephrotomy. About a quart of stinking pus was evacuated from around the kidney—the kidney was split open and found to be a mere shell of broken down necrotic tissue, containing sinuses, freely communicating with the peri-nephritic abscess.

The cavity was freely washed out—a drainage tube was placed in the bottom of the wound and the cavity packed with iodoform gauze—the wound was dressed and patient was put to bed. She reacted nicely and did well until the following night, when her pulse run up to 130 per minute, abdomen became very much distended, she began to vomit and all the symptoms of diffuse peritonitis developed. Seeing that death was inevitable unless something was done, I concluded to give her the only chance, namely, to open the abdomen, thoroughly irrigate and drain. I could only account for her condition on the theory that there had been leakage and escape into the peritoneal cavity of septic matter from the abscess cavity in and about the kidney. On the morning of the 15th, forty-eight hours after the first operation, the patient, almost pulseless, was again placed on the table. I opened the abdomen and found all the conditions of acute diffuse peritonitis present. About a pint of pus and stinking serum was sponged out of the pelvis. The intestines were injected and covered with lymph. The abdominal cavity was carefully sponged out and copiously irrigated with several gallons of hot normal salt solution, a glass drainage tube was placed in Douglass pouch and the abdomen closed. The patient was put to bed, apparently in a condition which promised that she would go the way of all flesh. Her pulse could not be counted, and her body was bathed in a cold, clammy sweat. She was at once surrounded by hot bottles, and injections of whisky and strichnia were frequently given. This was kept up during the night. Gradually reaction set in. The drainage tube was removed in fifty-two hours—at which time the patient's pulse was 108 and her temperature normal. The infection in this case was unquestionably the result of leakage from the abscessed kidney. The result in the case, in so far as the peritonitis was concerned, was perfect. The patient began at once to improve, her appetite returned and she gained greatly in strength up to October 15, when she began to show symptoms of uremia, which continued up to the date of her death, which occurred November 9, from uremia and exhaustion—two months after operation. The last operation for peritonitis was witnessed by Drs. W. H. Rogers, J. M. Sims and Pusey. From the foregoing we can safely draw the following conclusions:

1. That septic peritonitis is a surgical condition and should at the earliest possible moment be put under surgical supervision.

2. That all cases of acute diffuse peritonitis are not necessarily fatal, and while the mortality following operation must be great, many of these cases can be cured by prompt resort to the knife.

3. That success in these cases will depend on: (*a*) early operation; (*b*) careful cleansing of the abdominal cavity by sponging and irrigation; (*c*) by drainage by means of glass drain, supplemented, if necessary, by gauze.

4. That all such cases should be operated on. No surgeon should fail to give his patient the ben-

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efit of the chance afforded by operation, no matter how desperate the condition may be; they all die without operation, and many desperate cases are cured by prompt surgical interference.—*Medical Mirror.*

Inhalations in Phthisis.

By Sam'l O. L. Potter, M. D., M. R. C. P. L.

Inhalation is one of the oldest methods of medication. Homer recorded the disinfectant power of sulphur vapors and Galen prescribed the fumes from Mount Vesuvius to be inhaled for various affections. Hippocrates described an apparatus for administering inhalations. Balsamic inhalations were directly employed by Galen, Asclepiades and Dioscorides; and the inhalation of mercurial vapors was employed for ages in India and Arabia in the treatment of disease. The systematic use of medicated inhalations for the treatment of pulmonary phthisis ante date the bacillary theory of its etiology by over a century. Carbonic acid gas was employed by Percival in 1774 as a palliative in the later stages of phthisis, also by Dobson and Home in 1779. Tar vapors were recommended by Rush, of Philadelphia, in 1787, and were strongly advocated by Sir A. Crichton, physician to the Empress of Russia, as a cure for phthisis, in 1817. Mudge's inhaler dates from 1778. The use of nebulized (atomized) medicaments is of later date. Auphan in 1849 directed a delicate stream of mineral water against the wall of an apartment for inhalation purposes, and Sales-Girons in 1856 devised an inhalatorium or inhalation-chamber, in which the sulphurous waters of Pierrefonds were forcibly driven against a metallic plate at short range and converted into a fine spray. The portable spray-producers (nebulizers) of Charriere and Mathieu dated from 1859, and have been succeeded by many improved devices for the same purpose. It is not proposed to give an account of all the agents and methods which have been suggested or used for the local treatment of pulmonary tuberculosis, as they are too numerous for the limited space at our command; but our observations will be confined to the most typical agents which have been actually used in recent years for this purpose. These may be arranged under the five headings: (1) Inhalations of Air and Modified Air; (2) Gaseous Inhalations; (3) Inhalations of Vapors and Fumes; (4) Nebulized (Atomized) Inhalations; (5) Insufflations.

AIR AND MODIFIED AIR.

The systematic forced respiration of atmospheric air, through an inhaler or long tube, thrice daily for half an hour each time, was recommended by Dr. Ramadge in 1836, in the early stages of phthisis, as a means of enlarging the chest and increasing the permeability of the lungs. To influence the mind of the patient he added a little ether, vinegar or turpentine to the inhalation; and also employed air artificially cooled. Condensed and rarefied air applied in a wrought-iron spherical chamber, was used by Tabarie of Paris in 1832, and by Pravaz, Bertien and Milliet in 1838 and subsequently. Waldenburg's apparatus for this purpose (1875) is modeled after the spirometer of Hutchinson, while that of Frankel resembles an accordeon and is intended for home use. The costly pneumatic cabinet of Williams and Ketchum is a later and more impressive apparatus which had a brief period of popularity during the last decade. Certain physicians, desirous of impressing their patients with their enterprise and progressive methods, set up an air-tight safe of glass, iron and rubber, at an expense of $800 to $1,000, and for a few months were the subjects of the "talk of the town." Cures were duly reported, papers were read before local medical societies, and the usual advertising programme was gone through, but this fad took its departure in due season, and now has only an historical interest as a "cure" for consumption.

Heated Air Inhalation had a brief period of popularity until Mosso, of Turin, demonstrated experimentally that even with the inhaled air at 320° F. the temperature in the trachea showed only 100° F., so rapid is the cooling process in the respiratory tract. This method of treatment was commenced a few years ago by Weigert, an American physician living in Berlin. He caused his patients to inhale dry air at a temperature of from 104° to 140° at first, gradually raised to 175°. Dr. Halter went even further, having himself inhaled, and caused patients to inhale, dry air heated to 374°. The general effects were, as usual, represented as having been remarkable, patients who had been falling away picking up strength and becoming quite robust, the physical examination showing at the same time that the dullness and rales had perceptibly decreased. The bacilli in the sputum, which had been very numerous, rapidly diminished in number, and finally disappeared altogether. This method, and the theory on which it was based, were dis-

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cussed at the Clinical Society of London and at the Academies de Medecine in 1890, by several very eminent clinicians, including Dujardin-Beaumetz, Macfarlane, Williams, etc., with the almost unanimous agreement that it is useless and by no means free from danger.

GASEOUS INHALATIONS IN PHTHISIS.

Among gases the choice is very limited, as most of those possessing antiseptic qualities are partly irrespirable and partly irritant and toxic. The components of the atmosphere, oxygen and nitrogen, also their modifications, ozone and azote, have been thoroughly tried, but without satisfactory results. Fourcroy (1790) found that inhalations of oxygen in phthisis, although palliating the earlier symptoms so much as to promise approaching recovery, caused violent evidences of inflammation after a few weeks, and precipitated the fatal termination. Nitrous oxide gas was long paraded by charlatans under the name "compound oxygen," and has been employed in phthisis, but without results entitling it to any credit as a remedy therefor, though Larison (1874) reported a case of miliary tuberculosis which recovered under daily inhalations of five gallons of the gas. Hydrogen was used by Beddoes; and sulphuretted hydrogen from mineral springs has long been used in Germany and France. Recently Dr. Rienzi, of Naples, places sulphuretted hydrogen in the front rank of remedies to be used by inhalation for phthisis. Carburetted hydrogen (illuminating gas) was the subject of an article in the *Lancet* in 1836 by Dr. Clauny, who lauded it as a "cure for phthisis pulmonalis." Carbonic acid was used by Percival, in 1774, as a palliative in the later stages of the disease; and Howison, in 1797, reported "a case of phthisis pulmonalis completely cured from the patient breathing mephitic air." At various continental spas the inhalation of this gas has long been a recognized method of treatment for pulmonary affections, including phthisis. Chlorine gas was advocated as a curative inhalation in phthisis by Gannal as early as 1819. He read a memoir on the subject before the Paris Academy of Sciences in 1828, and exhibited an apparatus devised by him for administering it. His reported results were confirmed by many prominent clinicians; but Jolly stated, as his conclusion from sufficient experience, that the use of chlorine in this disease was wholly inefficient, and that it acted injuriously in many cases by increasing the cough, the oppression and the fever. These observations were confirmed by the celebrated Louis, who reported that in more than fifty cases he had not observed any successful result from the inhalation of chlorine. Chlorine formed a part of the recent Gibbes and Shurly treatment, mentioned in a previous article, but there is nothing in the reports thereon to show that it had any special influence in obtaining the results observed. Sulphurous acid is extensively employed as an inhalent at many of the sulphurous springs of Europe. The manufacture of sulphuric acid is asserted by Baumes (1845) to protect those employed therein against phthisis, and to even restore to health many who seemed predisposed to the disease.

VAPOR INHALATIONS IN PHTHISIS.

The vapors and fumes of volatile and volatizable substances have been used against phthisis from a very early period. Camphor vapor was so employed by Avicenna, and the inhalation of balsamic air dates from Rhazes in the ninth century. Little, in 1809, wrote "on the method of preparing and administering mercurial gas in phthisis pulmonalis." Iodine vapor escaping from seaweed was used in 1825 by Laennec, who kept twelve consumptive patients in his "artificial sea air" for four months. But without permanent result. Berton in 1828 employed the direct iodine vapor inhaled from a flask, and Sir Jas. Murray and Sir Chas. Scudamore (1830) were enthusiastic advocates of this treatment. Piorry (1850-1861) treated of it in terms of high encomium, and required his patients to inhale it even during sleep. Ethyl iodide is the agent now generally used for conveying iodine into the system by inhalation, and has many advocates. Hydrofluoric acid was suggested by Garcin about ten years ago from his observations of its effects on glass-workers. The Paris Academy of Medicine appointed a committee to examine into the subject, and the chairman, Dr. Herard, reported in 1887 that he and his colleagues had treated 100 cases, of which 35 were cured, 41 improved, 14 unaltered and 10 died, concluding with the opinion that "tuberculosis, if it be not too far advanced, is curable by this method." During the next two years several papers on the same subject appeared in the medical press of France and other countries, but nothing has been published lately in regard to this method. Balsamic vapors, artificially prepared, were employed by Dr. Bennett, of London, in the middle of the seventeenth century, also by Mead and others. Frankincense, styrax, ammoniacum and turpen-

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tine with coltsfoot, cinnamon, etc., were made into troches, burned upon hot coals, and their vapors inhaled. Trousseau and Pidoux used the balsam of tolu and benzoin in the same manner, which they preferred to any other method of inhalation. Resinous vapors from pine forests were advocated by Ireland in 1864, and have been extensively employed since in many parts of the world. Tar vapors, advocated by Rush in 1787, Crichton in 1823, Beddoes, Morton, of Philadelphia, and many others, have been a very favorite inhalation. Oliver (1871) suggested the use of fresh oakum introduced into a respirator and worn continuously. Turpentine has had many partisans, from Ramadge in 1838 and Snow in 1851 to Prof. Skoda, 1862. Terebene is its modern modification, and is placed with sulphuretted hydrogen in the front rank of inhalants by Rienzi, of Naples. The oils of pine, especially that of the Scotch pine, are less disagreeable in odor, and have been used, but with little benefit compared with that obtained by the use of turpentine. Arsenical vapors were anciently used in pulmonary affections, and were revived in phthisis by Trousseau (1841) in the form of the cigars of Dioscorides. Creosote, carbolic acid and wood naphtha, vaporized from the surface of hot water, or by other methods, have been long used and with benefit. The latter was introduced into practice by Crichton in 1816, and in 1845 it attracted some favorable attention as a remedial agent in phthisis. Dromanski, of Cracow (1875) proposed the inhalation of compressed air charged with oil of turpentine and also with a 1 per cent. solution of carbolic acid. Germain See advocates the use of creosote and eucalyptol with compressed air in a close chamber for four or five hours daily. Ether was highly praised by Pearson in 1797, who stated that he found its inhalation diffused an agreeable coolness throughout the chest, alleviated oppression and cough, lessened expectoration and hectic fever, and even promoted the cicatrization of tuberculous cavities. Monachlorophenol is very volatile, and its vapor being much heavier than air penetrates to the remotest air passages. It has recently been used with benefit as an inhalation in phthisis.

CHLOROFORM IN PHTHISIS.

Chloroform was highly praised as a palliative inhalation by Sir Spencer Wells, in 1851, in a paper read before the Royal Medico-Chirurgical Society, in which he presented the case of a young consumptive nobleman, then recently deceased, one of whose last wishes was that the medical profession should know of the great relief afforded him by inhaling small quantities of chloroform in every attack of dyspnœa and spasmodic cough from which he had suffered during the last eight months of his life. Dr. I. Burney Yeo (1893) says that chloroform "is often a valuable addition to many of these antiseptic inhalations. It is itself a powerful antiseptic, and by its ready volatility may help to convey the vapors of less volatile antiseptics deep into the air passages, while its sedative effect is valuable in allaying irritative cough." In 1890 the writer of this paper, in a letter to this journal, briefly announced some personal experience with chloroform vapor as a microbicide in a purulent catarrh of inaccessible cavities like the antrum, in epidemic coryza, hay fever, and similar affections; and suggested its continuous inhalation as a method of destroying the bacilli. As its vapor is heavier than air, it might be expected to penetrate deeper into the lungs than lighter vapors. This suggestion was copied by the *Journal de Medecine de Paris*, also by the *Indian Medical Record*, but no reports of experience therewith have been published. The principal objection to this method is the difficulty of carrying it out thoroughly, as it requires skilled attendants to administer the inhalation safely. The hypodermic injection of a weak chloral solution has been used by the writer in lieu of the chloroform inhalations, and has seemed to render good service in several cases.

NEBULIZED (ATOMIZED) INHALATIONS IN PHTHISIS

Are very numerous, almost every known antiseptic substance having been employed in the steam or hand-spray atomizers. Here again creosote leads in popularity and efficiency, iodoform probably coming next in order. The latter is dissolved in ether and the solution is then nebulized in a steam atomizer for inhalation. It may be used internally at the same time, and is warmly advocated by many, including Dreschfeld, who was one of the first to employ it, and Prof. Semmola. Sodium benzoate was a favorite remedy by inhalation until recently. Its use was founded on observations by Schueller, who stated that after producing artificial tuberculosis in animals he had cured it by causing the animal to inhale this substance in the proportion of 1 to 1000 of its body weight. Rokitansky applied it to human subjects and announced it to be curative in phthisis pulmonalis. Guaiacol, the principal ingredient of creosote, is a favorite agent with many clinicians.

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Huchard, of Paris (1895), uses a spray in the living room of the patient for an hour or two at a time, the atomizer containing 1 oz. to 1½ oz. of the following mixture: Guaiacol 50, eucalyptol 40, carbolic acid 30, menthol 20, thymol 10, essence of cloves 5, and alcohol to make 1000. By this method he obtained the recovery of a woman in the second stage of pulmonary tuberculosis after eight months of treatment. Jaccoud, who saw her before and after treatment, confirms the fact of her recovery. Mercury Biniodide 1 part, potassium iodide 1, distilled water 1000, atomized by a very fine spray, was used by Rueff and Miguel at the Rothschild Hospital in Paris. They report 3 cases of absolute cure, and 70 per cent. benefited. Mercury bichloride in solution with common salt as atomized inhalation, also gr. 1-50 twice daily by the stomach, has been employed with "immense improvement."

INSUFFLATIONS IN PHTHISIS.

Powdered antiseptics are blown into the trachea with the object of reaching parts inaccessible to the atomized spray. Loebinger, of New York (1890), uses in this manner a compound powder, containing calcium phosphate, also sodium benzoate and any one of the ethereal oils, in the shape of an elæasaccharum, so that the whole may form a fine, amorphous powder. Martel used calomel in the same manner, and Bramwell advocates the intralaryngeal injection of menthol in olive oil, 1 in 10. Reichert uses a solution containing salicylic acid 1 to 2 parts, dissolved in 3 to 6 of oil of peppermint, and diluted up to 200 parts with distilled water. He has used this treatment in 60 cases, always with uniform good results.

INTRAPULMONARY INJECTIONS

Through the chest wall of creosote, carbolic acid, iodoform, iodine, mercuric chloride, iodine and carbolic acid combined, camphor and carbolic acid and camphorated naphthol, in oils or other solvents, have been used in the treatment of phthisis; but serious accidents have resulted in several cases, and the benefits derived therefrom have not been sufficient to encourage the general adoption of this method.—*Pacific Med. Journal.*

Antitoxin Fatalities.

Quite a stir has recently been made in Berlin (*Drugg. Circ.*) by the death of a child suddenly following the injection of diphtheria antitoxin. The child was apparently in perfect health and the injection was given as a prophylactic, a case of diphtheria having occurred in its home. The father, a medical man of much prominence, made announcement of the fatality in the daily papers, causing notices to be printed in large type, in which the diphtheria serum was named as the cause of death.

According to a report in a late number of the *Journal of the American Medical Association*, a similar fatality occurred at Portsmouth, O., some weeks before the Berlin case. Diphtheria had broken out in a mild form in the family of a gentleman of that place, and a boy, five years old, in whom no symptoms of the disease were apparent, was given a prophylactic injection of the serum. In five minutes afterward he was dead, apparently from paralysis of the heart.

Dr. J. L. Taylor, who reports the case (which occurred in the practice of another physician) says that the serum was fresh, and adds the following comment: "The doctor, one of the first to introduce antitoxin into medical practice in Portsmouth, was an enthusiastic advocate of serum-therapy, and presumably used all the precautions which skill and experience can suggest. This terrible accident, therefore, can have but one meaning. It furnishes absolute proof of the inherent danger of antitoxin as a therapeutic agent. Cautious scientific observers have insisted from the outset that a substance capable of acting on the economy with the alleged effects of antitoxin must necessarily be a powerful agent. * * Whatever may be the final verdict of the profession as to its merits as a remedy in diphtheria, the fact should not be lost sight of that it is a most powerful agent, that the contra-indications to its use are not yet well ascertained, and that it can be an active instrument of great evil as well as possible good. It is not often that the evidence of the ill effects of an alleged remedy is as clear as it is in this case. Given as a prophylactic to a healthy child, disease cannot be credited with any share of the result. No one can doubt that antitoxin kills and that, too, right speedily."

While not exactly germane to the matter, we might here add that Dr. Carl Strueh has lately advanced the idea in the *Journal of the American Medical Association* that the decrease in mortality from diphtheria, as shown by statistics since the introduction of the antitoxin treatment, should not be ascribed exclusively to that treatment. He thinks a very important factor is that the serum-therapy, though not absolutely harmless, is less harmful than drug treatment formerly used, and favors hydro-therapy as a still better procedure.—*Medical Times.*

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External Treatment of Pneumonia.

We present this month the opinions of twenty-five well known medical teachers, relative to the external treatment of acute lobar pneumonia, and it is our belief that these reports will be of great value in determining what method or methods to pursue in the management of pneumonia. External treatment is a very important factor in the management of pneumonia, and in many instances its intelligent and selective application insures recovery, while in other cases inappropriate applications are the direct or indirect cause of unfortunate results.

Pneumonia is essentially self-limited disease and we cannot expect external treatment or internal medication to shorten its course. We can, however, expect to prevent complications, prevent extension of the morbid process to other lobes, or in other words, to limit the disease to the original consolidated areas. ' There can be no fixed rules provided which shall indicate, in all cases, what mode of external treatment shall be utilized, nor is there any mode of internal treatment which is applicable in all cases or even in twenty-five per cent. of all cases. The external treatment of pneumonia is eminently a question in which the physician must exercise his selective judgment, and not attempt to apply an identical mode of treatment in one case simply because it has proven of value in other cases. The question is one upon which the most experienced clinicians differ more or less radically, though in reality there is more unity of opinion than is apparent upon superficial examination of the question. From the score and more of opinions from authoritative sources expressed in this issue of the *Reporter*, we find a unity of opinion in most of the details of the subject, to an extent quite unexpected. For instance, poultices are almost unanimously condemned as useless, and by some of our correspondents as worse than useless. This, we believe, is as it should be, and the time must soon come when poultices will be known no more in the treatment of pneumonia. There seems also to be much feeling against the "ice pack" treatment, particularly in general practice, where professional nurses are seldom in continuous attendance, and where the facilities for carrying out the "ice treatment" are more or less completely lacking. The sentiment of the laity is extremely antagonistic to the use of the ice pack in the treatment of acute pneumonia, and the physician who makes use of the method, even in cases where it may possibly be indicated, and fails, must expect to be severely censured whether or not he is at fault. It is in cases where the temperature is desperately high, and such cases naturally hold forth an unfavorable prognosis, that the ice treatment is indicated and the physician seeing in it perhaps a last chance, makes use of it and is censured for his effort, the friends of the patient thinking perhaps recovery might have taken place had not the ice treatment been used. Therefore in summing up we may exclude the poultice as useless and the ice pack as impracticable and in the majority of instances dangerous, especially in general practice.

Of the cold applications, aside from the ice pack we have to consider the cold bath, cold water compresses, and cold sponging. The cold bath may be passed over with a word and may be termed as more impracticable and more dangerous than the ice pack. In those cases where the abstraction of heat is imperative and cold water treatment not contra-indicated the cold water compress applied as described by Professor Clapp (see abstract of paper) seems most practical. Cold sponging of the temples is a simple process, is not dangerous and without doubt will control the temperature to a noticeable extent.

Turning next to heated applications and excluding poultices we have to consider the hot bath, hot water compresses, sponging the temples with hot water, and the application of heat by the pneumonia jacket. The pneumonia jacket as described in abstract of paper is simply a means of applying heat by circulating hot water through rubber tubing which is fitted to the chest. From the illustration it will be seen that the pneumonia jacket is an exceedingly simple apparatus and no doubt the time will come when it will receive wide recognition from the profession as a means of external treatment in acute pneumonia. The hot bath as a means of abstracting heat is without doubt as effective as the cold bath and devoid of the many dangers attending the cold bath. The effect of the hot bath is almost identical to the pneumonia jacket. Last but not least we must consider mechanical protection of the chest. Protecting the chest from the atmosphere and keeping the pores of the skin constantly open is in many cases all that is required. As recommended by many of our correspondents it is a means which is particularly useful in the later stages of pneumonia.—*Ed. N. Y. State Med. Reporter.*

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How Shall We Treat Uterine Prolapse and Retroversion?

The very general exercise of this subject in the medical press, both native and foreign, at the present time, the championship and repudiation of various methods of treatment, the conflicting statistical statements, justify us in believing that the question which forms our editorial text has again come to the forefront of gynæcological interest and that its solution is as far from general acceptance as ever.

It must strike the outsider as strange that, although these pathological conditions, very frequently found associated together, have been recognized, distinctly classified and treated for upward of half a century, in this country at least, have always been and still are the conditions which call upon the specialist most frequently for relief, there is to-day as little consensus of opinion and practice as though the diseases had just been discovered.

A glance at the history of the treatment of prolapse and retroversion, therefore, since gynæcology became a specialty, cannot be devoid of interest and may be instructive.

Dr. Emmet was the first to demonstrate clearly by clinical evidence that both these malpositions were merely symptoms caused by widely differing pathological conditions. He further pointed out that they were mechanical difficulties and must be considered and treated according to well-known mechanical laws. In this connection he was the first to deny that the perinæum was in any way responsible for the support of the uterus or the vagina—a fallacy universally believed up to that time—but taught, on the contrary, that the uterus, like all other organs, was upheld and its position regulated by the concerted action of its several ligaments and the pelvic fascia, which he also showed were mutually interdependent for their integrity of action. It followed logically from this that a given injury or abnormal condition of this fascia or of any one or more of the uterine ligaments would produce, according to the laws of mechanics, a given and to-be-expected effect upon the position of the uterus. For instance, a shortening of the broad ligaments, from any cause, might either draw the uterus up too high in the pelvis or prolapse it or, according to the extent and particular part of the ligaments affected, completely or in part retrovert it; and these several malpositions are irreducible while the shortening of the ligaments remains. But Dr. Emmet further discovered that any malposition of the uterus affected the nutrition of that organ by interference with the blood supply and especially with the outflow of its veins. In a case of procidentia, therefore, the hyperæmia thus maintained would by the force of gravity constantly tend to increase the original malposition.

He found, by many years of clinical experience, that inflammation of the cellular tissue in the folds of the broad and posterior ligaments as well as that beneath the pelvic fascia between the uterus and vagina, was the most common cause of uterine displacement, through its effect upon the tension of the ligaments and fascia. To that form of inflammation which did not tend to resolve or to form a pelvic abscess, but which remained for a long time obstinate under local treatment with tendency to exacerbations, he gave the term, for want of a better name, *chronic cellulitis;* but this term, he always maintained, did not efficiently express the pathological condition, but rather a group of clinical symptoms. His treatment of procidentia and of retroversion were founded upon his interpretation of the cause of these conditions in each case. Where inflammatory shortening of one or more ligaments was the causal disease, he restored by local treatment the proper tension of these supports before he attempted to replace the organ. And, after the cause was removed which produced the ligamentary shortening, he still supported the prolapsed or retroverted uterus by properly adjusted pessaries, until the hyperæmic organ had recovered its normal weight and the ligaments their elasticity and were able to support the organ without assistance. In the case of the parous woman, he discovered that injuries to the cervix uteri prevented involution and maintained prolapsus, which became still more marked and was combined frequently with retroversion, if laceration of the fascia forming the floor of the pelvis had also taken place in childbed. He invented plastic operations to cure these conditions, with absolutely perfect results when these operations are properly performed. He argued that, if the prolapse and consequent retroversion were due to a want of integrity of the pelvic fascia at the floor of the pelvis, it was here that we should work and not attack the incapacity of the ligaments to fulfill their function, of which these are entirely capable if we restore the power of their working-partner, the pelvic fascia, and thus enable the uterus to return to its normal size, at which only

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the ligaments were intended to give it support. If, on the other hand, the uterine displacements were due to inflammatory or other shortening of the ligaments, it was unreasonable to expect results from plastic work upon the cervix or vagina, even when these were needed, until the ligaments were restored to health.

We have detailed at some length the teaching of Dr. Emmet in regard to the treatment of uterine prolapse and retroversion, because his teaching, for many years, represented more than that of any other man the standard of gynæcological thought and practice among us and because he is the only specialist who has established a distinct *school* of gynæcology.

His teaching, as a whole, was more or less understood and more or less imperfectly followed by the mass of the profession in this country until Tait discovered pyosalpinx as a cause of pelvic disease, and proclaimed it to be the *only* cause; that cellulitis, except that form which immediately resolved, did not exist. He maintained that the symptoms, which Dr. Emmet had grouped clinically under the term *chronic cellulitis*, were, in reality, cases of pyosalpinx with its consequent peritonitis. Immediately Germany adopted Tait's idea, though she gives her own leaders the credit for it, and this country soon followed with overwhelming enthusiasm. As Tait was undoubtedly right in that pyosalpinx did form a serious menace to health and life, and that it was to be found in a number of cases of pelvic inflammation, where it had never before been suspected, the profession argued that Tait must be right in both contentions, and agreed that cellulitis was a myth, and that the Tait operation was a panacea for every inflammatory disease of the pelvic organs.

Soon the sexual slaughter of woman became immense and flourished unabated for several years, while Tait soon became out-Taited by his enthusiastic followers. Gradually, however, the latter found that there was something wrong. Most patients undergoing this operation did not become restored to health for months, sometimes several years, after the removal of their ovaries and tubes, and many were made worse by a train of symptoms quite as bad as the original ones. It was also disconcerting when pathologists asserted that a considerable proportion of the appendages submitted to them were entirely free of all organic disease. Moreover, symptoms of prolapse were not relieved but generally increased by the operation. Then it was suggested that if Tait's operation were done in connection with forcible suspension of the uterus by ventrofixation, all would be well. But this has not proved satisfactory. In many cases, although the uterus can be felt drawn far up and held there, months after operation, the patient still continues to complain of the same symptoms which were formerly referable to the prolapse. After a time it dawned upon gynæcologists that Tait's operation was suitable only to cases of undoubted pus tubes, and that the wholesale spaying of women, which had so long prevailed, was not only not a cure-all, but had, on the contrary, a limited and very uncertain effect upon the symptoms of pelvic disease. Thus Tait, in his turn, began to become discredited, and medical popular prejudice veered round to what was called *conservative* surgery upon the appendages. And now men began tentatively to acknowledge again that possibly *cellulitis* might be a factor in diseases of women. Still this tardy reacknowledgment of an isolated fact did not assist the cause of prolapse and retroversion.

Alexander's operation of shortening the round ligaments about this time began to obtain many adherents where for a number of years it had excited little practical attention. But, as an adjuvant to this operation, it was soon found necessary to add the use of a pessary, because the round ligaments themselves were not strong enough to uphold the uterus and, where the prolapse was due to puerperal injuries, it was also necessary to add two or three plastic operations. When it became evident that an Alexander needed so much help from other surgical means, which in the hands of others were found amply sufficient to accomplish, by themselves, everything claimed for the Alexander, it still remained a question in the judgment of many whether this operation was not, to say the least, altogether superfluous. At the present writing a small crusade is being urged, especially in Germany, against ventro or vaginal fixation, and many evil results are brought forward as cause for its abolition. Suspension of the uterus instead of fixation is recommended.

With immense and confident enthusiasm, the old operation of curettage and drainage was again brought to the attention of the profession, and every possible good result was promised from its use. It appeared resting, as on a pedestal, upon the theory that every form of pelvic inflammation began as an endometritis; in which case, the uterus being the focus, and, as it were, stud farm from

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which new colonies of germs constantly came forth to ravage the peri-uterine tissues, a com plete and sweeping attack upon the offending endometrium should, by cutting off the base of supply, very quickly terminate the inflammatory processes with their concomitant uterine displacements. Curettage and drainage, if associated with complete asepsis, has been recognized, from the earliest times, as an excellent adjuvant to the treatment of pelvic inflammation, especially of long standing, but as a *panacea* it had only a little day of glory. Many cases which should have been *cured* were found to be only benefited temporarily, and then, as a solution of this puzzle, the further theory was advanced that in all such cases the whole uterus had become so rotten that nothing short of hysterectomy could destroy the propagating germs.

Such radical teaching, though a little shocking at first, by constant reiteration was soon listened to with tolerant ears and created rather a contempt for an organ which before had always been treated with decided respect.

It was not long now before the profession was prepared for the most brilliantly original procedure for the relief of procidentia and, incidentally, retroversion which probably has ever been suggested for the relief of any symptomatic and functional disease. In this case there could be no question of failure; so simple was the process that it became immediately evident to the dullest mind that the malpositions would disappear at once, never to return.

Observing the many rival camps, each maintaining its own method of dealing with these diseases, and each contemning the other's advocacy and lauding its own—viewing this contradiction and disunion we say—it occurred to some unprejudiced abdominal surgeons, who had arrived at the conclusion that there was not much choice among all the methods, that a simple compromise could be adopted by which harmony might be restored and unanimity of treatment prevail. This clever device, though astoundingly original in its application to the scientific treatment of functional diseases, yet had as an exemplar as old an incident as that of the famous knot which Alexander cut because he could not untie it. The simple rule of conduct proposed was: If a surgeon thought that *he* could not cure a case of procidentia, let him remove the uterus and its appendages and so put a stop to all further symptoms of any kind connected with those organs. Incidentally, moreover, he prevented the patient from having the procidentia cured by some other surgeon and the case from discrediting himself!

The charming ease and simplicity of this idea appealed at once to many among those gynæcologists who are accuustomed in all things to "follow my leader." The presence of a number of respectable names among the advocates of this measure sufficed to stifle any doubts as to its propriety and satisfied at the same time an abiding ambition to be always at the forefront of modern progress.

But there were honest souls simple enough to marvel at the mental attitude which could counsel a radical operation for the relief of functional disease, and these refused to subscribe to the argument: If *I* cannot cure this case it must be incurable; *I* cannot cure this case, *Ergo:* This case is incurable—and I am justified in radical excision. Many men even go so far in reprehending this argument as to declare it palpably illogical in thought and grossly immoral in practice.

There is one other method of treatment, too new yet to have been thoroughly tested, but which if judiciously used and not blindly abused, should be of use in a limited and clearly defined class of cases of retroversion. We refer to colpotamy, anterior and posterior. We believe it can never be self-sufficient, however, but must be considered as a possibly very valuable adjuvant. If the uterus be displaced and held so by old and firm peritoneal adhesions of itself or of its appendages, and there be no inflammatory shortening of the uterine ligaments present, then the direct and forcible breaking up of these adhesions and replacement of the uterus would greatly aid a cure in the matter of *time*. But if inflammatory shortening of the ligaments themselves be present we cannot reasonably expect anything from this operation save an increase of the displacement from manual interference.

This brings the history of the treatment of procidentia and of retroversion up to date. We consider it not only a most instructive object lesson in the study of the scientific mind, but of human nature as well. We might pursue the subject further from the standpoint of the long-suffering patient, who for half a century has been subjected to the effect of kaleidoscopic opinions in the treatment of almost the commonest disease which affects her genital organs. But, though we have not been prolix in what we have said, we have

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already been carried far beyond the space which we had allotted ouselves for this editorial.

One thing is certain: The profession at large is as much at sea concerning the treatment of uterine displacements as it is possible to be, and the divisions and blind gropings after any new promise of success are daily becoming more evident. The abdominal surgeons clearly recognized this condition of things when they were honest enough to propose that last resource—that final acknowledgment of incapacity to cure—*extirpation of the uterus!* But is it to the credit of those who profess to be gynæcological specialists that they should so quickly have "thrown up the sponge" and that, too, at the suggestion of those who have not had that special training in the peculiar conditions of the female pelvic organs which the former profess?

In that which we have just said is implied what, to our mind, is one of the chief causes of division among gynæcologists of the present time. The specialty has permitted itself to be dominated by the distinctively abdominal surgeon who, in most instances, is but the general surgeon in disguise—one who treats the diseases of all organs upon general surgical principles *only* and who has neither the inclination nor the knowledge to recognize the fact that the uterus and other female genitalia, both in the character of their tissues and in their physiological functions, are *sui generis* and need the undivided study of a specialist to do them justice. Moreover, gynæcology is not a *surgical* specialty; it is both medical and surgical. He, therefore, who expects to practice gynæcology on surgical principles only, however much he may endeavor to specialize these, is deceiving himself. He can never understand the diseases of women, and his capacity for harm is incalculable. The cleverer and more brilliant he is, merely as a surgeon, the more is he to be deplored.

A favorite weapon among the so-called "modern progressionists" and a most efficient one with which to beat the timid or wavering gynæcologist on to the trail of each new and supposed original idea and method has been the positive assertion that "modern" gynæcological thought and practice were founded upon the unerring dicta of modern pathology. This assertion is both false and ludicrously arrogant. The most positive statements of the most modern pathologists have not proved nor can they disprove anything in regard to practice, where well-matured clinical experience pronounces a contrary judgment. God be merciful to the pathologists, if they may justly be held accountable for the results of all the gynæcological fads and vagaries which have been so enthusiastically preached and practiced, only to be discarded in turn when the acme of damage had arrived, during the past ten or fifteen years!

Pathologists are not practical gynæcologists. They examine a pathological specimen, it is true, and may correctly state what morbid processes they find therein. But does this, can this, declare the ultimate or proximal cause of the disease or the symptoms of which the morbid specimen may itself have been the cause during the physiological life of that specimen? As familiar examples of what we mean: Does the declaration of a pathologist that an extirpated uterus really presents the condition which we know as chronic interstitial endometritis give the surgeon a scientific indorsement of its removal? Does the pathologist dare to say that the endometritis could not have been entirely cured by proper treatment and the uterus saved? Or does his report in any way indicate whether the endometritis was the cause or the effect of inflammation elsewhere—in the connective tissue of the broad ligaments, for instance? Is the pathological report of chronic ovaritis any scientific indorsement of the surgeon who removes the ovaries for this cause? We are not arguing here in regard to the propriety of these operations for these diseases; we *do* wish to show the absurdity of using pathologists as scapegoats for the rights or wrongs of gynæcological practice. No, the pathologist furnishes us data upon isolated facts; we must form our *practice* upon logical deductions from matured clinical experience. Pathologists cannot nor do they pretend to indorse these judgments. *Verbum sapienti!—Ed. Gynæcological and Obstetrical Journal.*

Sleeplessness.

It is unfortunate that the physiology of sleep is not better understood. It is even more unfortunate that what we do know about the phenomenon of sleep is not more diffused among the profession. How frequently indeed do we observe physicians who mistake unconsciousness for sleep, and who seemingly regard the goal of the application of their therapeutical measures as having been reached when they have succeeded in rendering a tired, worn-out, nervous individual oblivious to his surroundings by placing him in a condition which they call sleep, but which is

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simply unconsciousness. An experience of several years in insane hospital practice presented to the writer, in a very strong light, the enormity of this error and its wide prevalence. It was no uncommon sight, to see patients brought to the hospital in an unconscious state, due to the administration of narcotics; opium or morphine being the favorite drug used. One case is worthy of mention here, a male, neurasthenic, harmless, but suffering from the exaggerated mental symptoms so marked in this disease, was accompanied by his physician to the hospital. The physician stated his reason for coming was that he considered it important to keep his patient asleep, so that he would not appreciate the humiliation of entering the hospital, and further, that inasmuch as he had not been sleeping well for some time, and that he was now sleeping, he considered the opportunity a good one to let him recuperate. To this end the physician was at intervals giving hypodermic injections of morphine, and the poor, worn-out, narcotized patient, saturated with morphine, and believed to be asleep, was, as best he could, with his worn-out nervous mechanism, fighting for his life, which his respiration, weak pulse and inhibited reflexes showed was at very low ebb. This case was not an exceptional one; it was, alas, too common an experience. The physician had lost sight of the very essential principle which should govern our therapy in the treatment of sleeplessness, and that is, that sleep has for its object the repair of the wear and tear of vital processes of life, and to insure sleep we must not interfere with these processes, which we do when drugs are given until sedation results.

There is another thing to bear in mind in the consideration of sleeplessness and that is that there is a source of irritation somewhere in the economy, which, if relieved, will be followed by sleep. Again, "an axiom" well worth remembering is that the more gentle the means employed to induce sleep, the more natural will be the sleep induced, and the more gentle the means employed the more careful must we be to select the right time for their use. We believe that Dujardin-Beaumetz was right when speaking of the use of drugs in the treatment of sleeplessness; he said: "That for a drug to be hypnotic it must imitate the natural condition of sleep by effecting a lowered intra-cranial pressure, and that drugs which, though bringing about unconsciousness, do not lower cerebral pressure, or which increase it, cannot claim to be hypnotics. Opium and morphine are objectionable on this ground. Drug treatment must put the patient in a position to go to sleep in a natural way, and not *put* him to sleep." Sedatives do this, but narcotics do not.

In the use of sedatives we must be cautious and not use them *ad libitum*. The writer in a paper on "Sedatives in the Treatment of Insanity" (1892, *Hospital Bulletin of Minnesota*), said, "Each case is a 'law unto itself,' and as such requires patient and persistent study ere we commit the folly of giving a hypnotic, when more simple and efficacious methods would produce satisfactory results." You cannot cure sleeplessness by drug treatment; the drugs simply conserve nervous energy and act as valuable assistants to the building-up process necessary to cure the sleeplessness. Sedatives act, as before stated, by placing the patient in a position to go to sleep, and nature does the rest.

In our experience we have learned to rely upon the bromides, chloral, cannabis indica and hyoscyamus as sedatives, which, if judiciously used, bring order out of chaos. The bromides lower the sensibility of the brain, and thus promote sleep. The single salts can be used, but in the writer's experience, where a sedative is indicated in sleeplessness, it is better to combine them, and when there is any excitement, add chloral. Cannabis indica is a sedative which is but little used by the general practitioner, and for the reason that it is misunderstood, misrepresented, and as a result never used as it should be. Clouston, Mathison and Echeverria have taught us their value. Hyoscyamus is another sedative, the value of which is not appreciated, a drug which is endorsed by Budde, Brush, Krafft-Ebing as a hypnotic. Now, these valuable sedatives, when combined, give us a thoroughly reliable and satisfactory agent with which to treat sleeplessness, and in the writer's experience no more elegant or reliable preparation is before the profession than that of Bromidia, in which is combined in proper proportion the bromide of potassium, chloral hydrate, hyoscyamus and cannabis indica. We feel that the profession can always rely upon this combination, and find it especially useful in the treatment of sleeplessness.—*Medical Fortnightly.*

A RECENT writer calls attention to the fact that the failure of injection of morphine to produce sleep is often due to the fact that perfect silence in not maintained in the room where the patient is lying. Morphine tends to exalt the excitability, and for this reason a slight noise is liable to disturb the patient.—*Mass. Med. Jour.*

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Original Articles.

Indications for Vaginal Hysterectomy, with a Description of Prof. Jos. Eastman's Method.

By Charles W. Oviatt, M. D.

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Read before the Fox River Medical Society at Green Bay, Wis., Jan. 26th, 1896.

The indication for a surgical procedure should have a well-defined, rational basis. Fads and fashions should have no place in scientific medicine and surgery; and yet we are forced to admit that the profession has lately drifted close to lines that will not bear rigid analysis. This is not strange when we think of the wonderful advance made in surgery during the last few years. It is not surprising that the brilliant success that has attended modern surgical efforts should have biased the judgment of even the best trained minds.

Europe points to Lannelongue as one of its most brilliant surgeons, and yet he introduced and advocated linear craniectomy for microcephalous, an operation absolutely irrational, and at variance with well-known laws of embryology and physiology.

Batty introduced oophorectomy, which has its legitimate field of usefulness, but when the evil that has followed the wholesale mutilation of women is weighed against the good accomplished by it, we can but wonder if it were not better that it had never been devised. The pendulum, however, is now swinging back, and the rational limits of the usefulness of the operation are being better understood; but this knowledge has been purchased at a fearful cost. Just now a new source of danger confronts us; a new, or rather a revived, operation is being recklessly advocated and practiced by those whom we recognize as among the leading surgeons of the day. I refer to vaginal hysterectomy. That this operation has its legitimate field of usefulness no thoughtful surgeon will deny, but it is being carried to an absurd extreme that will greatly menace its usefulness.

We are told that if a woman has pus-tubes which require removal, the uterus may as well be sacrificed too, and that vaginal hysterectomy is the *sine qua non*. There are instances where the uterus is so distinctly diseased as to make the combined operation advisable, but not otherwise. In the face of the magnificent results in the removing of pus-tubes by abdominal section in the hands of such men as Price, Eastman and other brilliant operators, it is safe to predict that the senseless mutilation now advocated will be short-lived.

It is also being advocated in puerperal sepsis, and while it may here be advisable in rare instances, the definition of puerperal sepsis is yet much too vague with the profession at large to admit the general advocacy of so radical an operation. A clear distinction would have to be made between septic intoxication and septic infection; that is, between sapræmia and true progressive septicæmia, and a purely local septic process. In this latter condition, if it were found impracticable to secure thorough drainage by any other method, vaginal hysterectomy might become a life-saving measure.

It is in neoplasms of the uterus, however, that we find for vaginal hysterectomy the greatest field of usefulness, and in this field it should, in my judgment, be confined largely to growths that can be removed intact through the vagina. I am aware that Pozzi, Segond and others of Europe, Polk and his followers in this country, are removing large fibroids through the vagina, by the method known as *morcellment*, and while in the hands of these gentlemen the operation may be a safe one,

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I feel that the practice is wrong, and in the hands of less skillful practitioners would be decidedly dangerous. With the mortality brought down to that of simple ovariotomy, by the methods of Kelly, Price, Eastman and Senn, by abdominal section, it seems unsurgical to attack a large fibroid in a manner devoid of mechanical, surgical and anatomical principles.

In malignant disease of the uterus, vaginal hysterectomy is about the only hope we can hold out to the patient. Schroeder has shown that about 33 per cent. of women dying of cancer have the disease located in the uterus, and in these a very large proportion begin in the cervix. Could these cases have the benefit of an early hysterectomy it would make a vast difference in the statistics of the operation. Unfortunately the disease is often not suspected until it has advanced to such a stage as to render any operation almost hopeless, if not unwarranted.

Before taking up the diagonosis of carcinoma of the uterus upon which must be based the indications for operation, I wish to review briefly the pathologic data of the development of the disease. Based upon the theory of Conheim, Prof. Senn, in his recent work on "The Pathology and Surgical Treatment of Tumors," gives this definition: "Carcinoma is an atypical proliferation of epithelial cells from a matrix of embryonic cells of congenital or post-natal origin." By atypical proliferation is understood their development or growth outside of their normal physiologic relation; that is, in tissues where they are not normally found. This is due to a displaced matrix from the epiblastic or hypoblastic layers from which alone epithelial cells originate, into tissues formed by the mesoblastic layer during embryonic evolution, or during the healing of granulating or eroded surfaces, such as we find in a lacerated cervix, and which is pointed out by Senn as a very probable etiologic factor in the disease in this location.

Normal, *mature* epithelial cells cannot proliferate in tissues derived from the mesoblastic layer. This atypical proliferation is, therefore, from *immature* or embryonic cells, which, following the law of "normal succession of cells," as founded by Remak, reproduce the same type of immature or embryonic cells. Just why these cells become physiological anarchists and refuse to obey the laws of normal cell growth we cannot tell. When we take into consideration the undoubted inherited tendency to malignant growths, we can but feel that there is a deep, underlying law governing their development that completely transcends our comprehension.

In the beginning of the development of carcinoma the connective tissue spaces become infiltrated, and the irritation thus produced causes the fixed connective tissue cells to proliferate, and thus the stroma of the true tumor is formed. If the epithelial cells outstrip the connective tissue cells in proliferation, we have a soft, rapidly-growing tumor; while if the connective tissue stroma is in excess, we have a slower growth, which may be of stony hardness. Thus are formed the encephaloid, medullary, scirrhus, colloid and papillomatous carcinomata of our forefathers, terms which should have no place in modern pathology.

In the matter of diagnosis it is now well understood that there is no distinctive cancer cell, as was formerly supposed. It is only by studying the relation of the proliferating epithelial cells to the surrounding vascular connective tissue stroma that a diagnosis can be made. To accomplish this a cut section of the growth must be made and examined. It is useless to attempt a diagnosis from an examination of surface scrapings.

The group of symptoms which usually accompany development of carcinoma of the uterus are: Hemorrhage, watery and fetid vaginal discharge, deep-seated pain in the pelvis, and later, dysuria and rectal tenesmus.

Hemorrhage is most frequently the symptom which is first noticed, and which induces the patient to consult a physician. A vaginal discharge, tinged with blood and having a fetid odor, is often early developed. Pain is variable, and may be entirely absent until the disease is far advanced. On palpation the cervix is hard and nodular, although the surface may be profusely ulcerated. By cutting a wedge-shaped piece from the most prominent part of the tumor from which a section may be cut and stained, a positive diagnosis can usually be made.

With the diganosis made, hysterectomy affords the only chance, and, to promise much, must be

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done very early, while the organ is yet movable, and before any of the surrounding structures are involved; in other words, while it is yet entirely local. This must be determined by careful bimanual palpation, exploration per rectum, and downward traction with tenacula or vulsellum.

The ordinary method of performing the operation by means of clamps left upon the broad ligaments has always seemed to me to be faulty and unsurgical. The use of ligatures as originally used was an improvement, but with the sloughing stump left in a cavity of denuded tissue, and with the upper portion of the vagina deprived of its natural support, there seemed much still to be desired. Upon reading a description of the operation as devised and practiced by Prof. Joseph Eastman, of Indianapolis, I was strongly impressed with its superiority, because it seemed based upon sound anatomical and surgical principles, and because it had the stamp of a *completed* operation from a mechanical point of view.

Before attempting the operation by this method, however, I visited Dr. Eastman, at his magnificent private hospital at Indianapolis, where he kindly demonstrated every step in the technique upon two difficult cases, which, I think, would be sufficient to convince any one that it is an ideal method.

The preparation of the patient for the operation should be thorough and careful, extending over a period of several days. Gentle and repeated clearing out of the intestinal tract should be accomplished by the use of salines or mineral waters. The external genitals should be carefully shaved, and the vagina cleansed by means of gauze sponges and potash soap. A daily warm bath should be given, and the patient restricted to a concentrated, largely liquid diet. If the cervix has been converted into a fungus mass, which is undergoing putrefactive changes, this tissue should be removed with the sharp spoon and the actual cautery, which may generally be done without the use of an anæsthetic. Sublimate irrigations are to be repeated once or twice daily, to be followed by packing the vagina with sublimate gauze.

Dr. Eastman has, in his last one hundred and fifty hysterectomies placed the patient in Sims' position, claiming for it the advantages of Trendellenberg's position in abdominal section. Most operators, however, will, I think, continue to prefer Simons' (exaggerated lithotomy) position, as it seems easier to maintain a conception of the anatomical relation of parts.

Flat retractors of short pattern are introduced which thoroughly expose the field. If there is a discharge from the cervical canal, sutures are taken through the cervix, which invert the lips, and thus effectually shut off possible infection from this source. The vagina is now thoroughly re-sterilized by a final scrubbing and irrigation. A tenaculum is fastened into the anterior lip of the cervix, and given to an assistant to hold. The operator then hooks another tenaculum in the opposite direction into the mucous membrane in front of the first one. Then with a scissor curved on the flat, the mucous membrane is divided around the anterior segment. By a process of clipping and blunt dissection the tissue between the uterus and bladder is separated until the peritoneal cavity is opened. The free margin of the peritoneum is then brought down and sutured to the vaginal mucous membrane in the center and at the angles. A flat sea-sponge or gauze compress with a ligature attached is introduced into the abdomen to protect the intestines. The posterior cul-de-sac is then opened in the same manner, the wounds uniting at the angles. The curved broad ligament needle (Fig. 1), armed with a yard of reliable cat-gut, is carried entirely around the broad ligament, on one side, keeping close to the uterus. The needle is removed and the ligature securely tied. The free ends of the ligature are left long, and upon one arm a full-curved trocar-pointed needle is threaded. The next step is the introduction of the curved ridged director (Fig. 2), the ridge being introduced into the groove made by the imbedded ligature in the tissues of the broad ligament. This manœuvre brings down the broad ligament instead of the uterus. The needle, which is at one free end of the ligature, is now carried through the tissues of the broad ligament just *outside the ridge* of the director, and tied; the tissues being repeatedly transfixed and tied in this manner.

The cat-gut ligature is still left long. The rounded and narrowed broad ligament is now divided with the scissors between the uterus and

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the ridge of the director. The opposite broad ligament is dealt with in the same manner, and the uterus removed. If it is desired to remove the appendages, they may now be brought down, ligated and removed. The gauze compress or flat sponge is now removed, and the same needle and ligature which transfixed the stump is now made to pick up, first the serosa covering the bladder, and then that of the rectum, and is tied. This approximates the cut edges of the peritoneum and leaves the stump extra-peritoneal in the vagina. The opposite side being dealt with

Fig. 1.

Fig. 2.

in the same manner, a small opening is left in the center, through which is introduced a strip of iodoform gauze to secure drainage. The greater the number of adhesions the more imperative will be the demand for this drainage. The wound surfaces are completely approximated and in condition to favor ideal wound healing. The ends of the stumps which are to undergo necrosis from constriction *are in contact with mucous membrane, and not surrounded by denuded tissue.*

Another great advantage of this method of fixing the stumps is that the vagina is not deprived of its normal support from above and is left in its natural position. It seems strange that this point, which is so strongly insisted upon by Dr. Eastman, has not been more fully recognized and appreciated. Greig Smith, of London, however, in the last edition of his work on abdominal surgery, makes favorable mention of it, and gives to Dr. Eastman full credit for the introduction of this principle.

A Report of Three Interesting Cases of Abdominal Section.

BY E. F. FISH, M. D., MILWAUKEE, WIS.

Read Before the Northwestern Medical Association, July 15, 1896.

It is not my aim to tire you to-day by a recital of a number of cœliotomies of minor significance. That duty I leave for him who would asexualize womankind. It is my purpose at this time to make a report of the history, treatment and present condition of three rather interesting cases of abdominal section.

CASE NO. 1.

Marie S., aged 22, American, single, consulted me at my office January 12th, 1896. Complained of pain in the region of the ovaries. This was of three days duration, and so severe at the time that she could not resume her work as a dressmaker. Said she never had any disease of the genito-urinary organs, although she called to mind a sudden and profuse leucorrhœa of two years ago. At the present time there was a slight leucorrhœal discharge. Upon physical examination, I was unable to discover any special lesion except great salpingo-ovarian tenderness. I gave her local treatment—glycerine tampons, etc.—and in three days she was practically well and able to resume work. A week later I was summoned to her house, and found her on the bed and suffering from the same pain, only in a more exaggerated form.

Patient said she did not feel able to come to my office. I made a very superficial examination, merely palpating the abdomen, and prescribed rest, hot douches and gave her a rectal suppository of belladonna, opium and iodoform. She again improved and resumed her work. In this way she continued to get along, having a few good days and then a bad one, until January 30th, when I was again summoned. This time her condition was bad; she had been hav-

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ing chills and sweats, was much reduced and very anemic; her temperature was 102.5 and pulse 110. I made a vaginal examination, and readily mapped out two very large tubes, which I at once pronounced pyosalpinx. I then urged immediate operation, but it was fully a week before the patient consented, and during all this time her condition became more and more alarming. She was finally taken to Trinity Hospital, where, on February 8th, 1896, assisted by Dr. Charles H. Lemon, I opened the abdomen at the side of the linea alba. At the time of operation her temperature was 103, pulse weak and rapid, and she was very feeble. Upon passing my hand into the left iliac fossa I was puzzled for a moment to grasp the condition; instead of the tube, I found a large, round, fluctuating mass, which I soon diagnosed to be a tubo-ovarian abscess encysted in the cellular tissue of the broad ligament.

With the index finger of my right hand I went through the anterior fold of the broad ligament, and came directly on this cyst, and discovered it had a very thin capsule. By constantly working away from it I was enabled to enucleate the sac intact. Its walls were so thin that pus escaped as soon as it was gently placed on a plate. I then went into the right pelvis, and at once encountered this immense pus tube. It extended almost straight out from the uterus to the pelvis, and was bound on all sides, by adhesions, to the intestines, abdominal wall and pelvis. Its walls, too, as you can plainly see, were very thin. By the same method I dissected away from the tube, after first securing the ovarian artery, and in a short time I succeeded in bringing it out intact, and excised it at the uterine horn in the usual manner. I then passed my hand behind the uterus, and found the left tube filled with pus and lodged in the cul-de-sac of Douglas. Like the other, this tube was adherent on all sides, and, like the other, it was freed by carefully dissecting away from it with my finger. The ovarian artery of the left side was now tied, and the tube brought out at the lower angle of the abdominal incision and removed. The uterus was firmly incarcerated by adhesions. I tried to anchor it to the abdominal wall by sutures, but failed. There was considerable venous oozing, which was with considerable difficulty controlled. I placed a Mikulicz packing behind the uterus, and in this way crowded the fundus to the anterior abdominal wall. The vagina was tamponed with iodoform gauze, and the cervix crowded high and backward. The incision was now closed by silkworm gut and three provisional sutures left in the lower third of the wound. Seventy-two hours later the packing was removed, the vaginal tampon renewed and the provisional sutures secured. The fundus uteri was already adherent to the anterior wall.

The patient recovered without an untoward symptom.

CASE NO. II.

Mrs. W. L., a tall, slender blonde, aged 26, American, married. Was summoned to her home January 2d, 1896, and found her sitting with her knees drawn against her abdomen and suffering intense pain in the left ovarian region. Upon inquiry I elicited that she had contracted syphilis two years prior, and was then in charge of a specialist, who had advised her to consult me. She had been taking large doses of the iodides, and her stomach was absolutely intolerant of anything, either in the form of medicine or nutrition. She had been suffering in this way for a month, and her condition was bad; her pulse was 100; temperature 100; tongue coated; breath foul; bowels constipated; abdomen tense and very tender in the left iliac region. Upon bimanual examination I could not discover anything, as the abdominal muscles would at once become so tense that I was not able to make out the adnexæ of either side. Her bowels were relieved by enema; hot douches ordered; the iliac region painted with iodine, and rectal suppositories of opium and belladonna prescribed.

As her stomach rebelled against all kinds of food, she was, for the time being, placed on liquid peptomoids. I did not see her again until January 8th, when I was sent for, and found her in about the same condition, only more emaciated. I was informed that she had arisen the day following my first visit, and had in a measure superintended her household duties, but that within the past twelve hours she had been forced by pain to take her bed. This time I again made a bimanual examination, and ascertained the same

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state of affairs as before, except that the tenderness was extending to the right iliac region. The muscles became so tense that I could not map out the adnexæ. I prescribed about the same treatment as before. Again she improved slightly, and I did not visit her until January 15th, when I found her as bad as ever, and gradually losing flesh and strength. All this time her breath was foul. She refused to be taken to the hospital; refused to take an anæsthetic; refused everything except medicinal treatment. In this way she lingered along until the 25th of January, when she began to have slight chills and sweats. I explained that I suspected pus, and urged the woman to allow me to take her to the hospital for operation. This she stubbornly refused to do. During all this while she had been using large doses of morphia by rectum, and her temperature ranged from 99 to 103, and her pulse weak and rapid. From February 1st to February 10th she refused all forms of nutrition and took only ¼-grain doses of morphia every three hours. Upon this day I flatly refused to attend her any further unless she was taken to the hospital. I told the family that there was pus inside of her, and it must be let out, or she would die in a few days. They at length relented, and on February 12th she was taken to the hospital, more dead than alive. At this time her pulse was 130; temperature 103; respiration 30; weight less than 100 pounds. I tried to build her up a little by systematic alimentation, but her condition did not improve. I then decided to operate at once. Dr. Charles H. Lemon saw the case with me on the morning of February 15th, and acquiesced in the diagnosis. She had been previously prepared for operation, and on that morning at 11 o'clock she was anæthetized and taken to the operating-room. Here, under the influence of ether, a very careful examination by Drs. Lemon and Hill and myself failed to find the pus tubes. We were puzzled. Her condition was extremely critical; pulse 140; respiration 30; temperature, just taken, 102.5. A hurried consultation over the advisability of any further treatment followed, and we decided to do an exploratory cœliotomy. She was freely stimulated with strychnia. I opened the abdomen in the linea alba. The left ovary and tube were found to be normal; the entire peritoneum was congested; the right tube was normal, but the ovary was about the size of an egg and cystic. This I excised. The absurdity of the excision struck me as soon as completed, for certainly such an ovary could not account for her condition. At this time some one said, "Look at the appendix," whereupon Dr. Lemon fished it out, when behold, its distal two-thirds was filled with fœcal matter. I dissected away a cuff around the appendix, tied the vessels and removed it, covering the stump with the peritoneum. The incision in the abdomen was closed without drainage and the patient placed in bed, and treatment administered to prevent shock and stimulate the heart. Thirty-six hours later I was summoned to the hospital by telephone, the nurse stating that her temperature was 104. Dr. Lemon was present at the time. We examined her, and diagnosed pus in the cul-de-sac of Douglas. Her condition was very unpromising; temperature 104; pulse 150. We decided to open the cul-de-sac at once. She was drawn to the edge of the bed and her hips were elevated, when, alas, the pus sac was no more. A loop of the small intestine had fallen behind the uterus. She was again placed in bed, and Dr. Lemon remarked, "Be sure to hold a post-mortem before her husband comes in the morning." Next morning her temperature was 100, that evening 99, and from that time it became normal and remained so until she was taken home. The stitches were removed on the eighth day, and on the tenth day after the operation she went home. Since then she has not been sick a day, and is now hale, hearty and in excellent flesh, and not addicted to any form of opium.

CASE NO. III.

Lena G., age 26, German-American, single. Consulted me in November for dysmenorrhœa. Menstruated for the first time at the age of 15, and was always regular and well until two years ago, when she had a criminal abortion at the third month. Six weeks later she contracted a gonorrhœa, and since then has suffered intense pain at each menstrual period, and even between these times. Has never had any other serious illness. Upon physical examination I found the uterus retroflexed to the second degree and firmly fixed. Owing to the fact that she was very

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fleshy over the abdomen I could not make out the adnexæ. She was placed on internal and local treatment, with indifferent success. This was persevered in until the middle of March, 1896, when her condition was even worse than at the time she first consulted me. I then decided to open the abdomen, break up the adhesions and do a suspensio-uteri. To this she readily consented, and accordingly she was prepared for cœliotomy. On March 23d she was anæthetized and placed on the table in the operating-room of the Milwaukee Medical College, where, assisted by Dr. W. B. Hill, and in the presence of a class of medical students, I undertook to do an hysteropexy. Upon opening the abdomen and passing the fingers of my left hand into the cavity, I found everything matted together—intestines, tubes, ovaries, uterus, bladder and omentum. It was a long, tedious undertaking to separate these adhesions, but I finally succeeded. I then found that I had, in addition, double pyosalpinx to deal with. The tubes were about as large as the index finger. They were finally freed, and, together with the ovaries, which were very small and cirrhotic, excised. It took one hour and forty minutes from the time I made my first incision before I was ready to close the abdomen. There was universal oozing of blood, which I could not fully control. The uterus was drawn forward, and one catgut suture placed to fasten it anteriorly. The abdominal incision was closed with silkworm gut and a glass drainage tube passed behind the uterus, and two provisional sutures left in the lower third of the incision. On attempting to tie the catgut suture which was to suspend the uterus it broke. The glass drain, however, held the uterus forward. Like in Case No. I., the vagina was packed with gauze, crowding the cervix toward the basin of the pelvis. The operation lasted one hour and forty-five minutes. The drainage tube was left in for eight days. During the first six days it drained profusely. A gauze drainage conductor was placed inside of the tube. This was removed night and morning, and the tube pumped dry with a syringe to which was attached a short piece of rubber tubing, and again dressed by placing a gauze conductor to the bottom of the glass drain. On the seventh day there was but little discharge per tube, and it began to look straw-colored. On the eighth day the tube was removed, and the patient went on to recovery. Since then she has not experienced an ache nor pain, and is about to marry.

REMARKS.

In this age of vaginal drainage you might well ask why I did not resort to this measure in Cases I. and III. I am willing to admit that such a procedure would have been good practice, although, in my judgment, a secondary cœliotomy would have been required. Vaginal drainage in such cases seldom, if ever, cures. Reports seem to indicate that it occasionally does. In Case No. I. the question of restoration of tubal function was absurd, and I preferred to open from above, in order to see what I was doing and to arrange a proper toilet. In Case No. III. I did not suspect pus tubes. I am satisfied that, in either case, great damage to the intestines and omentum might have resulted by the vaginal route, and an immediate abdominal section been required. The etiological factor to the pathological condition in Cases Nos. I. and III. was the gonoccocus. I was not particularly afraid of the escape of pus in the cavity of the peritoneum. Very seldom do we find the coccus in such pus. We did not this time. Again, you might ask why I did not aspirate after opening the abdomen in Case No. I. That is the method of some of our best operators. Kelly aspirates in such cases, and then shirrs a gauze bag around the tube before separating and tying. Perhaps I could have done this, but still the walls felt so thin that I could not refrain from keeping as far away from them as possible. In Case No. I. the tubes would have ruptured on the slightest handling, and, in my opinion, the thing to do was to dissect away from them, keeping the face of the finger toward the sac. These were very large pus tubes, as you see. The right tube, at the time of operation, measured 4½ inches in length and 2½ inches in diameter, and contained 4½ ounces of pus. The left tube is nearly as large, and the abscess sac was 8 inches in circumference and contained 8 ounces of pus. It was self-evident that it was not possible to save them by vaginal drainage, and that aspiration would have inevitably permitted the escape of

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pus: and while I say I am not afraid of it, I prefer not to disregard it. Case No. III. is interesting to show how we often run on to what we least expect. I diagnosed a retroflexed uterus, with adhesions, but did not suspect pus tubes. The patient's condition was otherwise excellent. She was in good flesh, rosy cheeks, and in all respects, save those abdominal pains, vigorous. The adhesions, as separated, caused very great oozing, and an interesting part is the length of time the glass drainage tube was left and the good work it did. The next question you might ask is, Why did you not remove the uteri in patients Nos. 1 and 3? What function has such an organ when the adnexæ are lost? I have held for two years that, when you take the tubes and ovaries, take the uterus also. I have changed my mind within the past six months. Every year finds us forming new and altering old conclusions, the natural sequence of a broader and more extensive experience, the natural sequence of a more extensive knowledge of etiology and pathology. When we have a sound uterus, or one so nearly sound that a little local treatment will make it so, I say leave it. I have come to the conclusion that it has some other function than that of an incubator. In the sexual act it plays an important part, and that of itself is an irrefutable argument in favor of its preservation, complete ablation being the frequent cause of permanently strained family relations and, indeed, to disruption and divorce. Again, the effect on the mind of the patient must be taken into consideration. It is bad enough for a woman to realize that her ovaries are gone, that she has been unsexed; but to realize, in addition that her pelvis is empty, that every vestige of womanhood is obliterated, is such a strain on the nervous system that it often leads to an unbalanced mind. In all cases where the adnexæ are excised and the uterus, by reason of its condition, is left, an hysteropexy should be done to prevent prolapse. In the cases I have just reported I used catgut to suspend the uterus, and when called on at the critical moment the gut broke. However, the Mikulicz packing in Case No. I. and the glass drain in Case No. III., placed behind the uteri and reinforced by the vaginal tampon, held them so nicely against the abdominal wall that I did not deem it necessary to reopen and put in new sutures. The results have confirmed my judgment, as both women have been examined by myself within thirty days and their uteri found to be in suspensio.

What can I now add in regard to the case of appendicitis? This patient was sick for two months prior to the operation, and during all that time there was not a single symptom pointing to the appendix. In fact, all signs and symptoms pointed to the pelvic organs and to the organs of the left side. There was no pain, swelling, tenderness nor rigidity in the ileo-cæcal region. There was nothing to lead one to test McBurney's point. There was no characteristic vomiting. I considered her constipated condition due to the use of morphia. What caused her temperature to run up to 104 thirty-six hours after the operation? I cannot say. These cases are interesting for the following reasons: Case No. I. shows how rapidly a double gonorrhœal pyosalpinx and abscess can form; how possible it is to enucleate large pus tubes even when the walls are very thin, by dissecting away from them; how a Mikulicz packing and vaginal tampon can supply the place of a suture and antiplace the uterus until it becomes adherent.

Case No. III. illustrates how we can easily fail to correctly diagnose our cases; how a simple operation for suspensio-uteri can become a very tedious and difficult operation on a mass of adhesions and exudates and pus tubes; how difficult it is to control oozing when such extensive adhesions are broken up, and how a glass drainage tube may be left in situ, with advantage, more than a week. This is unusual, but in this case, in my judgment, kept the pelvis drained, prevented the formation of more extensive adhesions, together with the tampon held the uterus against the abdominal wall until it became adherent, and saved the patient's life. With all due respect to Dr. Holmes, who says that "drainage is a sort of vicarious redemption for poor surgery."

Case No. II. gives us an example of an appendicitis without a symptom pointing to the appendix; it illustrates that such a condition may exist for a long time without the formation of an abscess; it reminds us, once more, that the most desperate and unpromising cases not infrequently recover; that there is a cause for every effect,

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and we should not rest until we find it. Finally, it is a warning to be thorough in our work. Had I closed the abdomen without an examination of the appendix my work would have been only partly accomplished, and my patient would have long since crossed the Styx.

Tobacco Amblyopia.

BY BELNO A. BROWN, B. Sc., M. D., C. M.

Professor of Ophthalmolgy and Otology, Milwaukee Medical College, etc., etc.

The prevalence of the tobacco habit makes the action of nicotine upon the eye an interesting and important subject. For some time the loss of vision caused by this drug has been known, but not fully understood. Comparatively recently, however, investigation and observation have brought out the main points in these cases; and to-day the intelligent oculist can both comprehend the pathology and successfully treat them Experience demonstrates that this disease, though quite common, is overlooked by the genera practitioner, and frequently unsuspected by the otherwise skillful ophthalmologist. A brief statement of the pathology and symptoms of this toxic ocular malady may be useful to the busy doctor, and help him to advise such patients profitably.

1. PATHOLOGY. The lesion is inflammation of the axial fibers of the optic nerve followed by atrophy or death. The irritation begins at any point below the chiasm; hence the injury may be deep and invisible, or at the disc and visible. If the distal or ocular portion is affected, the ophthalmoscope will generally reveal the fact; if the injury be deep, no indications can generally be found. The characteristic sign is pallor of the optic disc; but as the ophthalmoscopic findings do not need attention, we will proceed to the external evidences of this trouble.

2. SYMPTOMS. Gradually increasing dimness of sight in one or both eyes; inability to find suitable glasses; absence of external inflammation and pain; deficient color perception; the presence of scotoma or blind spots. If any of the above symptoms appear in a patient in connection with an extensive or long-continued tobacco habit, toxic amblyopia may reasonably be expected to exist.

The following two cases are good examples:

CASE I. Mr. J., drug clerk, 50, came to my office for glasses. Had been the rounds of the various opticians for years without permanent relief. On examination found sight of right eye hopelessly gone and of the left badly damaged. Diagnosed toxic amblyopia as patient had been a user of tobacco since boyhood. Under treatment vision of left eye improved sufficiently to enable patient to continue his labor and earn his daily bread.

CASE II. Mr. P., 65, manager of a plumbing establishment, consulted me concerning a supposed incipient cataract in each eye. Examining with ophthalmoscope, found pallor of both discs, media clear. Patient unable to read newspaper type comfortably. Gave history of long continued use of tobacco. Diagnosed toxic amblyopia, and put patient on suitable medication. At end of three months he is able to read fairly well the daily papers, and vision is still quite rapidly improving.

The above cases will give a useful hint to the family physician, and when similar ones present themselves, he can, with comparative certainty, diagnose this malady, and suggest to the patient the advisability of immediately consulting a reliable eye surgeon, rather than spending valuable time in chasing after opticians. A few months' delay may make an immense difference in the final outcome of these cases, hence the necessity of prompt action and immediate treatment.

Announcements.

COLORADO School of Medicine, of University of Colorado, Denver, Col.

GROSS Medical College, of Rocky Mountains University, Denver, Col.

NEW YORK Post-Graduate Medical School and Hospital, New York.

DETROIT College of Medicine, Detroit, Michigan.

UNIVERSITY of Tennessee, Medical Department, Nashville, Tenn.

ANNUAL Course of Instruction in Orificial Surgery, by E. H. Pratt, A. M., M. D., LL. D., Chicago.

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Translations.

Rapid Death From Obstruction of the Left Auriculo-Ventricular Orifice in a Case of Mitral Contraction Complicated by Vegetating Endocarditis.

By Henri Huchard.

The clinical history of this case may be resumed in a few words; mitral contraction with light aortic insufficiency in a woman 38 years of age, without rheumatic antecedents; intense dyspnœa without a trace of congestion or pulmonary œdema. Having been in my service only a few days, she soon returned a prey to violent orthopnœa with white asphyxia and succumbed during the night. Basing myself on other facts of rapid or sudden death in mitral contraction, facts I have studied and published in two lessons in the *Bulletin Medical*, and in the thesis of one of my pupils, M. A. Gerard, in supporting myself also upon the symptoms observed, I attributed this death to cardiac thrombosis and especially to obstruction of the auriculo-ventricular opening by a clot.

Necropsy has fully confirmed this latter diagnosis. Doubtless the coagulum, large as a nut, which suddenly interrupted the course of the blood from the auricle to the ventricle, ought rather to be connected with the existence of a vegetating endocarditis than to be a true auricular thrombosis. But the fact of an occlusion of the mitral orifice already contracted, facts formerly reported by Adams and Stokes, let us understand why the latter author was able to say that "mitral disease offers greater chances for sudden death than analogous affections of the aorta." However, for me, besides, it is demonstrated that sudden death is extremely rare in aortic insufficiency of endocardiac origin, and that it is frequent only in aortic arterial insufficiency. In my patient the rapid death cannot be attributed to aortic insufficiency, in which case it would have come on by *syncope*; it must be attributed to complete occlusion of the mitral orifice by this big vegetation, which gives rise to death by *asphyxia*.

On the other hand this vegetating endocarditis which especially developed on the auricular face of the mitral valve, has been prepared by the enormous tension that the walls of the left auricle are always subjected to in mitral contraction. Rapid or even sudden death may set in in three different ways in this disease:

First. By almost complete obliteration of the left auricle, by means of stratified clots, which is quite rare.

Second. By obstruction of the pulmonary veins.

Third. By complete obstruction of the auriculo-ventricular orifice by means of clots or large vegetation.

It is known, further, that thrombosis and endocarditis—auricular—exist, above all, on the posterior wall of the auricle, and I may add that increase of the supra-ventricular flatness, that sometimes the existence of auricular palpitations, of arythmic troubles and tachycardiacs, of dyspnœic accidents often confining to asphyxia without trace of congestion or pulmonary œdema, are symptoms permitting us to affirm this grave and very frequent complication of auricular thrombosis. This complication is even so frequent that one may say that *in mitral contraction the key of prognosis is in the left auricle*. At all events, the object of my communication has been to show that death, not only rapid, but sudden, is not absolutely rare in mitral stenosis; that auricular thrombosis and obstruction of the auriculo-ventricular orifice by a clot or large vegetations can be diagnosticated.—*Gaz. Medicale de Paris*, 14 Dec., 1895, pages 594-5.

H. P. W.

Case of Rupture of the Bladder.

Kramer reports the observation of a man, aged 49 years, who, at the time of wanting to go down stairs to urinate, fell and struck with the abdomen against the rail (banister). He experienced violent pain and could not pass urine in spite of all efforts. No fracture of the pelvic bones; no swelling of the body, but everywhere painful and sensitive to pressure. Percussion of the abdomen revealed an absolute dullness to the umbilicus. Along the sides the flatness was prolonged to the axiliary lines. In the soft parts of the abdomen there was tympanic sound on percussion. Change of position brought *no* change in sound. The catheter penetrates easily, and 400 grammes

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of very bloody urine are evacuated. A rupture of the bladder was diagnosticated and the place or seat of rupture was carefully sought for. Operation was proceeded with and after an hour's careful search the operator discovered the seat of rupture on the posterior surface near fundus.

The patient recovered. The author in giving the description of his operative procedure remarks that in this case the method of suture of the bladder recommended by Bell, in 1789, proved its usefulness.—*L'Independence Medicale*, 1896, No. 3, p. 21; *Deutsche Medizinische Wochenschrift*, 2 Jan., 1896. H. P. W.

Death From Stercoral Obstruction of Cæcum.

A young man of 19 years, in usual very good health, and without any noteworthy antecedents, entered the service of M. Edgar Hirtz, with the physical signs of a large dilatation of the stomach, and at the same time with general grave phenomena, which went quite counter to this diagnosis—(facies abdominalis, profound depression, but no collapse nor hypothermia, extreme thirst, absolute inappetence). These symptoms begun only five days previously. Since then constipation. Although the *clapotement* (splashing) of the stomach was very distinct, gastric lavage dislodged and brought away only some alimentary detritus and did not relieve the patient in any particular.

Hirtz attached himself to the idea of a probable intestinal perforation. Death four days after entering of patient. Autopsy eighteen hours after death; considerable distention of small intestine, large intestine empty and collapsed, but cæcum very much dilated, filled with very hard fæcal matter from the ileo-cæcal valve to the middle of the ascending colon. No trace of perforation. Stomach of normal dimensions, although it had appeared markedly ectasic during life. Nothing in other organs.

Hence the patient had succumbed to an intestinal obstruction caused by an accumulation of fæcal matter in the cæcum. Hirtz says he has not found any other case of death of this kind at that age of life, 19 years, in medical literature. The interest, he says, in closing, lies especially in the fact that rectum and iliac flexure were not only free but as collapsed, as the stercoral boggiiness had not progressed from below upward, but altogether in the cæcum, and in a *normal* cæcum. The appendix was normal also.

Another point to note is that the enormous splashing perceived *intra vitam* was produced not by the stomach but by the small intestine distended and filled with liquid.

In connection with this case, a case of Mathien, a young man of 18 years, who recently died in his service, of a kind of intestinal obstruction, and at whose autopsy was found above the iliac flexure (s'iliaque) twisted, the large intestine was truly monstrous in volume and contained several kilos of fæcal matter. A short time before recourse had been had to surgical intervention in accidents of a similar nature, but there was rapid relapse.—*Le Bulletin Medicale*, 102; p. 1174, 1895. H. P. W.

Empyema of the Gall Bladder.

In this case, the woman, aged 53 years, ordinarily in good health, who, during the past two years, was taken with pain in the right hypochondrium, the pains returned from time to time, and were characterized by their great violence.

Examination of patient permitted verification of an extremely painful tumefaction in the vesicular region. The diagnosis in its way was not very difficult, for the general aspect of the patient, excluded every idea of cancer which, would, per force, have produced a considerable emaciation in the two years the affection lasted. On the other hand, the excessive sensitiveness of the tumor, the very severe pains it was the seat of and finally the existence of a febrile condition permitted the affirmation of a suppurating cholecystitis.

Exploratory laparotomy, in fact, showed that the gall bladder was involved—distended by liquid. The vesicle was completely surrounded by solid adhesions and difficult to approach. Cholecystectomy had to be renounced as loosening of the vicus was impossible, and as well ideal cholecystotomy since the vesicle contained pus. Cholecystotomy in *deux temps* was decided on. But on account of the profound situation of the gall bladder, suture presented great difficulties, since at a given moment the bladder broke and the abdominal cavity was flooded with pus and brownish

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granulations. A forceps was placed over the tear, but the tissues were so friable that occlusion could only be made by the fingers of an assistant. The peritoneum was cleansed as well as possible, and the friability of the tissues rendering every suture inert, the parts were tamponed and the vesicle and wound drained with iodoform gauze.

Post operative results were very simple, and notwithstanding the penetration of pus into the abdominal cavity the patient had no fever. For some days the discharge remained purulent, then became bilious and finally muco-serous. To obtain retraction of the biliary vesicle, its mucosa was removed by the curette; the patient recovered, preserving for a time, however, two fistulæ, emitting a little sero-mucus.

Microscopic examination of the pus showed presence of coli-bacillus, but cultures remained sterile, and to this fact Tillmann attributes the absence of complications in spite of the penetration of pus into the peritoneum.—*La Tribune Medicale*, 1895, pages 1010-11. H. P. W.

Retention of Meconium Due to a Contraction of the Whole Large Intestine.

Planchard attending a woman in labor heard the beating of the fœtal heart growing weaker, applied the forceps and delivered a child apparently dead, but rapidly reanimated.

The labor occurred at four o'clock on a Saturday. The following day no meconium had been passed by the child, and a minute examination was made.

A carmelated sound introduced into the anus penetrated more than six centimeters. The general condition is very good, the belly soft, no vomiting. Lavement and a coffee spoonful of ol. ricini.

Sunday passes but no meconium; the little girl vomited the oil; the injection flows out as it entered. The general condition remains good, the child takes the breast avidly and there is no vomiting.

Monday morning the general condition is good, but the belly is somewhat tympanitic. Planchard tries to give a clyster. Without difficulty he introduces a No. 14 gum sound, twelve centimeters in depth. The child makes efforts at defecation and appears greatly relieved. With a hydrocele syringe a little tepid water is forced in but immediately passes out again at the anus, and not a drop remained in the rectum, even by closing the anus with the finger; several attempts remain fruitless. Hot fomentations over the abdomen, hot baths and another dose of oil.

Monday evening the same condition. The oil was thrown up and the milk rejected, but the general aspect remains good. More injections are tried but all fail.

Tuesday morning no meconium; the belly becomes tense, the child vomits as fast as it nurses the breast, but takes the breast with pleasure, condition still good. Abdominal faradization is made without success. Planchard then introduced a large electrode sound into the rectum and a large electrode on the abdomen, giving an electric lavement with continued current of 4 m. a. Very offensive gas is expelled. The current is passed for ten minutes with intermittances every thirty seconds. Nothing comes after. In the evening the same attempts were repeated electrically without result.

On Wednesday the color is less fresh, the cheeks more flabby, the child vomits its breast-milk and greenish matter. It urinates well. The intestinal loops are outlined under the abdominal wall. The cord falls off. There is neither fever nor peritonitis. Another electric lavement and a simple injection are tried but neither gas nor meconium passes.

Thursday the features have quite changed. Everything is vomited, the child takes nothing more. It dies on Saturday morning, seven days after birth.

Not a trace of peritonitis at the autopsy. The loops of the small intestine are very distended by gas. On simple opening of the abdomen the large intestine cannot be seen. Separating the loops of the small intestine the last loops of the ileum and cæcum are found filled with meconium. There is seen, closely applied against the posterior abdominal wall, the large intestine easily recognized; but as intestine its calibre is only intestine in miniature. Whilst the loops of the small intestine were twice the size of an adult aorta, the large bowel in its whole extent was scarcely the size of a brachial artery. There was

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no absolute material obstacle to passage of fecal matter.

In toto, it was a congenital contraction of the calibre of the whole large intestine, and Planchard has not been able to find another similar case in medical authors.—*Le Centre Med.*, 1895, Nov.; *Bull. Med.*, 1896, No. 6. H P. W.

The Relations Between the Thyroid Gland and the Female Genitals,

Was the topic discussed by Fischer before the Vienna Medical Club. He collected a large array of facts to show that clinically as well as physiologically a very close relation exists between the thyroid gland and the genital apparatus of woman.

He first calls attention to the relative frequency in women of goitre, myxœdema, Basedow's disease, obesity, sclerodermia, etc., almost all resulting from some alteration in the thyroid gland. Other facts in favor of his theory are, constant tumefaction of the thyroid during puberty, and its very frequent tumefaction in pregnancy, the unhappy results exercised by pregnancy on pre-existing goitre, and reciprocally, frequent interruptions of pregnancy in women affected with goitre; atrophy of the genitals in those affected with Basedow's disease, the frequency of myxœdema in multipara; the atrophy of the genital apparatus in thyroidectomized animals.—*La Tribune Medicale*, 1895, No. 51, p. 1011.

H. P. W.

Sudden Death From Occlusion of the Coronary Arteries.

Reported by Oesterreich to the *Society for Internal Medicine*, Berlin, December 2, 1895. A young man, aged 32 years, died suddenly during his first nuptial night at the time of his first coitus. Autopsy revealed the first coronary artery obturated by a large clot, which continued by a constricted portion into the aorta. The left coronary artery also contained an embolus of yellowish color. The coronaries were not sclerosed, and the heart was *not* the seat of any alteration.—*La Tribune Medicale*, 1895, No. 51, page 1010. H. P. W.

[In this connection we may add that Leyden has reported that he has observed four cases of sudden death occurring during coitus.—TRANSLATOR.]

What Constitutes a Cure in Pulmonary Tuberculosis.

The *Columbus Medical Journal*, March 3d, has an original article by Dr. C. P. Ambler, of Canton, O., upon "What Constitutes a Cure in Pulmonary Tuberculosis." The writer takes the position that the average case reported as "cured" is misleading, and that the custom of reporting cases as "improved" under certain medication is to be deplored. Under almost any rational treatment, depending in great part upon the general hygienic supervision, the average case will improve in all the general symptoms. Such cases are reported upon too early. We hasten to report the case as soon as any marked improvement is noticed, especially if we have been using some remedy which we are riding as a hobby. Statistics will never amount to anything as long as such a course is pursued.

The writer "interprets a cure to mean either a fibrous or calcarious change with elimination of all tubercular bacilla." Improvement in general symptoms is too often taken to mean healing of the local condition, when in fact the disease is only quiescent, because the diseased area has become encapsuled. As long as this fibrous encapsulation remains the patient may enjoy good health; and if the contents undergo fibrous or calcarious change a perfect cure is the result; but should the capsule break down before such changes have taken place, auto-infection results, and symptoms of active envolvement of new tissue follow, frequently with the patient appearing generally to have fully recovered.

This is what happens to the patient that improves at some climatic resort, returning home apparently cured, only to liberate an encapsuled tubercular deposit with disastrous results.

A "cure" is a matter of years and not months. We should be guarded in expressing our belief that fibrous or calcarious changes have taken place. No man can say whether or no such a change has entirely taken place. If for two or three years no rigors whatever of an active tuberculosis are noticed, we may then feel that there is hope that the case *may be cured.*

Inasmuch as Dr. Ambler was for four years connected with Winjah Sanitarium for Diseases of the Lungs and Throat, at Asheville, N. C., the paper is of more than ordinary interest.

The Preliminary Course of the Milwaukee Medical College begins September 1st.

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MILWAUKEE MEDICAL JOURNAL.

A Monthly Journal of Medicine and Surgery.

Contributions are respectfully solicited from members of the profession, in good standing, in all parts of the world. All original articles when written exclusively for the JOURNAL will, upon publication, be paid for in reprints or in extra copies of the JOURNAL. Authors desiring their articles illustrated must furnish drawings or photographs from which the illustrations will be made without further cost to the contributor. Address all matters for publication or review to the editors,

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W. H. NEILSON, M. D.

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Our Jack Bunsbys.

There is in almost every community some individual who poses as a wise man and is considered as an oracle by his admirers. His stock in trade usually consists in looking very wise and saying little, that little couched in such words that the listeners or the oracle himself fail to comprehend them. Dickens has admirably sketched such a character in the redoubtable skipper, Jack Bunsby, who, unlike some of our present day oracles, was "a man as had his head broke from infancy up'ards, and has got a new opinion into it at every seam as has been opened." He was unlike our present day oracles, for it would be an impossibility to let a new idea into their heads, for there are no "seams" in the density of their self-complacency; and yet, like them, in the choice of his verbiage believing that sound is everything, sense a secondary condition. We are recently in receipt of a pamphlet from a practitioner in an interior city who enjoys a fairly good practice, which was read before a body of practitioners, among whom are some good men, but who arrogate to themselves the privilege of choosing the good from all the schools of medicine. But read. Speaking of the laws governing health and disease he boldly asserts they are nature's laws, and says: "The paramount fact of all life is that every single one of all its functions throughout all their phases *are* governed by natural laws.

"Universal nature is thus governed even down to every mote of matter throughout all its mutations forever; and whatever is, has, and must needs have, its whys and wherefore."

No doubt this is capable of making an impressive sound when delivered by its author, a fine specimen of physical manhood, and may have had an effect, as did the equally confusing verbiage of Mr. Bunsby, who, when pressed for an opinion on the important matter, said: "My name is Jack Bunsby, and what I says I stands to. Whereby, why not? If so what odds? Can any man say otherwise? No. Awast then!! * * * The bearings of this observation lays in the application on it."

It would hardly be worth while to notice the jumble of words and stock phrases of which this pamphlet is made up were it not that through it all there is breathed an antagonism to all modern thought and advancement. This would not be so bad were its distribution limited to individuals capable of forming an estimate of the author's claim for consideration, but we fail in our reckoning if the effusion be not industriously placed among a class who have always shown opposition to the interference of health boards, which bodies come in for a goodly share of condemnation set forth in language in which singulars and plurals, subjects and predicates, relatives and antecedents run riot. According to the gentleman there should be absolutely no quarantine, contagion is a myth and all diseases the result of chemical action influenced by atmospheric conditions. The belief in pathogenic germs is especially denounced and an appeal made to treat disease in the light of common sense. We most heartily commend his advocacy of free ventilation and the admission of sunlight to dwellings as preventative measures.

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We are sorry that this pamphlet has been written; sorry for the author, for he is capable of better things, and sorry for those who may possibly be influenced thereby to their detriment. It is a serious thought that this gentleman is but a type of a large number of practitioners of every school scattered through the country, each one having some followers; each one an oracle to his own little circle. Where does the responsibility lie? We must go back, first to the apathy of the state which permits any one to practice no matter what his qualifications be, provided he have a diploma, and, secondly, to the carelessness of schools in admitting men with improper preparation for the study of medicine.

Luckily the states are awakening one by one to the necessity of examining boards and establishing them, and in this way the products of the schools are being thoroughly culled. The schools aroused by the necessities of the situation are each year more stringent in their entrance examination, and more thorough in their teaching, so that it is safe to say that before many years every safeguard will be thrown out for the protection of the public. Meanwhile the products of laxness are still free to block the wheels of progress with all their puny strength and there is no redress. We must still listen to their barking and "if ought disturb their noise," they creep within the shelter of their *alma mater* and "kenneled there still bark and howl unseen."

Bogus Medical Colleges.

We are very much pleased to notice that the Attorney-General is taking vigorous action against the two "diploma mills" established in our city, whose business, we should judge, has been very far-reaching, as we have received letters of inquiry from widely separated states.

The Wisconsin Eclectic Medical College, the first to establish itself here, which consisted of one Fred Rutland, M. D., and Anna Neve Rutland, M. D., who officed over a dry goods store, which store building appears as the college in the circular, has found it expedient to remove to Chicago where its "correspondence department" is to be found at 1001 West Congress Street. Our Attorney-General takes the ground that this removal annuls the charter and now relies on the postal authorities to suppress the correspondence department. The plan of operation is very simple. Medical directories are scanned for names of practitioners who are not credited with diplomas. To these gentlemen is promptly offered for the insignificant sum of thirty-five dollars, a diploma, which to all intents and purposes is before the law as good as the most "gilt edged." Midwives, nurses and druggists are also offered in seductive terms the wonderful advantages of the institution and the "increased standing in society which a diploma gives."

Attorney Mylrea has also begun proceedings against the Milwaukee University and Wisconsin School of Dentistry, whose officers are one Dr. Samuel Shorer, of Milwaukee; a Dr. Schoene, of Fredonia Station, and one or two hitherto unknown licentiate dentists. The methods of procedure of this institution are similar to the one above mentioned, their terms being a trifle higher.

It is sincerely to be hoped that these blots may be thoroughly eradicated. It is a poor commentary on our state laws when irresponsible strangers can come to our state and secure charters whose provision they have neither intention nor capability to fill; but it is commendable that efforts are now being made to prevent further mischief. Of the damage done and its attending disgrace who can estimate?

We bow our heads in shame-faced contemplation of this befoulment of our state's escutcheon.

Northwestern Medical Association Meeting.

The meeting of the Northwestern Medical Association held at Milwaukee, July 14th and 15th, was in many respects a very enjoyable and we hope profitable one as well. Contrary to the usual custom, the meeting held over two days, the time being very fully occupied. The morning session was occupied by Dr. Earles in giving a surgical clinic. After exhibiting a case of coxalgia from which the head of the femur had been removed and one of tuberculosis of the spine with paralysis below the diseased point, he performed an operation for radical cure of hernia and also removed one-half of the inferior maxillary in a girl 12 years of age for osteo-sarcoma. In this he was assisted by Dr. B. G. Maercklein.

After a bounteous dinner served by Mrs.

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Earles, at her residence, assisted by Mrs. Neilson, a paper on diphtheria with special reference to therapy was read by Dr. G. J. Hirth. This was discussed by Dr. Ballanger, of Chicago. Dr. Neilson reported a case of remittent fever. Dr. Evans, of Chicago, and professor of normal and pathologic histology in the Milwaukee Medical College, gave a very clear exposition of the subject of malaria and exhibited slides showing the micro-organism peculiar to this disease. Segmentation of micro-organism is co-incident with the chill and the periodicity is due to the organism fulfilling its life history—that is, from the sporule to segmentation—in a given length of time. Different crops give rise to the phenomenon of the chill appearing every day or every second day as the case may be. Quinine delays segmentation, hence delays the chill; but it should not be given just before or during the chill, as it has then no effect.

Dr. Neilson then exhibited a case of subacute exudative nephritis with pain over left lumbar region, together with a case of subacute rheumatism of the left lumbar muscle, with a view of showing the points of likeness and dissimilarity of the two diseases, emphasizing the necessity of a thorough examination, especially of the urine in all cases of pain of the back or side. By this time the car chartered for Wauwatosa was in waiting and the members and visitors boarded it for the County Hospital. There a couple of operations were performed by Dr. Earles, after which the company enjoyed the hospitality of Dr. and Mrs. Stewart.

The programme of the following day was started early by Dr. Shimonek, who removed two dermoid cysts from the ovaries of a patient presented by Dr. Zeit and also performed an oophorectomy on another patient for cystic degeneration. At this writing all of the cases operated upon have progressed most favorably, notwithstanding they were done in the amphitheatre, which, from the nature of things, cannot be kept in the condition of cleanliness considered necessary to an operating room.

The essential in preventing infection is cleanliness on the part of the operator, his assistants, the patient and everything in contact with her.

Dr. Fish then read an interesting paper, which we present with this issue, after which Dr. Neilson presented cases of acute and chronic bronchitis and one of varicose veins. At the business meeting which followed Drs. Fish, Hirth and Hill were admitted to membership and a compliment bestowed upon THE JOURNAL by voting it the organ in which the transactions of the society shall appear hereafter. We assure the members that their courtesy is thoroughly appreciated.

Medford is the place of next meeting, in October, and we bespeak a good attendance.

Owing to lack of time some features proposed for the meeting were crowded out. Dr. H. V. Wurdeman had some beautifully prepared specimens of eyeballs to present and a paper to read, but owing to a misunderstanding the hour allotted to him was also set aside for a medical clinic. The doctor generously gave way, but we trust at a subsequent meeting he will be present with more time and we are sure neither paper nor specimens will have lost interest. Dr. Willard, of Wausau, also had a paper on the enucleation of the eyeball, which he holds over for the Medford meeting. Dr. Sauerherring is preparing a paper on thyroid extracts in the treatment of cretinisne which we are sure will be full of interest. We trust that this will not be the last meeting of the society in Milwaukee, for we can assure the members that we thoroughly enjoyed their presence here.

THE ninth annual meeting of the American Association of Obstetricians and Gynecologists, will be held at Hotel Jefferson, Richmond, Va., September 22, 23 and 24, 1896. Wm. W. Porter, Secretary.

THE eighth annual meeting of the Tri-State Medical Society of Alabama, Georgia and Tennessee, will be held in Chattanooga, Tenn., on Tuesday, Wednesday and Thursday, October 13, 14 and 15, 1896. Dr. F. T. Smith, Secretary, Chattanooga, Tenn.

THE date of meeting of the Mississippi Valley Medical Association has beeen changed to September 15, 16, 17 and 18, in order to permit the members and their families to take the opportunity accorded by this change to make a pleasant tour through the Yellowstone Park. Plans for the excursion to leave St. Paul on the 18th

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and return by the 27th, are now well under way, and an enjoyable time for all who take advantage of this excursion to the justly celebrated Wonderland of America is assured.

WHEREAS, Dr. I. N. Love has found it incumbent on him to sever his connection with the Marion-Sims College of Medicine, the members of the Faculty of that Institution embrace this occasion to express their appreciation of his past services, and to extend to him their hope that in all his future connections he will find both pleasure and profit.

O. M. HYPES,
R. C. ATKINSON,
G. BARCK,
Committee.

A Case of Tic Convulsive Cured by Hypnotism.

Editor of the Milwaukee Medical Journal:

SIR—Tic convulsive has generally been considered as a surgical affection when it conld not be relieved by drugs.

Lichtschein, in the New York *Medical Journal*, May 30, 1896, says: Tic convulsive, because of its central origin and purely functional, can be successfully treated by suggestion, even where other means have been without effect, and I wish to bear out this assertion by reporting a case which came under my observation in dispensary practice.

The patient presented a cicatrix on the left side at the zygoma, the result of an operation, three years previous for tic convulsive. The symptoms of that painful affection were again returning on the same side as before the operation, the muscles would violently and painfully contract at the least irritation and sometimes without apparent cause, making the patient despondent and life most miserable.

Under hypnotic suggestion, carried out for four weeks every other day he was cured. From the first hypnotic treatment he gradually improved, the paroxysm being less severe, not so easily brought on and at gradually, more distant intervals.

As these cases can be cured by hypnotism, it is only just to humanity to try hypnotism before surgery.

THOS. BASSETT KEYES, M. D.
100 State Street, Chicago.

Book Review.

THE fifteenth annual announcement of the New York Post-Graduate Medical School and Hospital has just been issued. Five hundred and forty-two physicians from all over this continent have attended the courses at the institution during the past year. More than one thousand operations were performed in the hospital, which is one of the largest in the city, containing special wards for babies and children, while nearly twenty thousand patients were treated in the Out-door Department. Recent discoveries have revolutionized medical and surgical methods, and a man whose medical education ended fifteen years ago is not a physician or surgeon within the present meaning of the term. Post-graduate medical instruction is for the purpose of furnishing to these graduates in medicine a means of refreshing their knowledge. It supplies them with the opportunity of coming in direct contact with disease by means of special courses in all the departments of medicine.

THE MULTUM IN PARVO REFERENCE AND DOSE BOOK. By C. Henri Leonard, M. A., M. D., Professor of the Medical and Surgical Diseases of Women, Detroit College of Medicine. Flexible leather, 143 pages, price 75 cents. Detroit, 1896: The Illustrated Medical Journal Co., publishers. This is a recent edition of the Dose Book, of which the title page informs us some forty thousand copies have been issued. The present edition is printed on very thin paper, and is bound in red leather, round corners, so as to make it specially light and handy for the pocket; the weight is not two and a half ounces. Besides the doses of some 3,500 preparations being given, it has numerous tables, such as the solubility of chemicals, pronunciation of medical proper names, poisons and their antidotes, incompatibles, tests for urinary deposits, abbreviations, table of fees, etc. It will be found a handy pocket companion.

THE Technics of the Trial Case, or, Subjective Optometry, by A. Edward Davis, A. M., M. D., New York.

"POST-GRADUATE" containing Neurological Reports from the Clinics of Prof. Charles S. Dana.

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Reprints.

PHARYNGEAL TUBERCULOSIS. By Robt. Levey, M. D., Denver, Col. (*Denver Med. Times.*)

HYDRO-GALVINISM OF THE URETHRA. By Robert Newman, M. D., New York.

FIRST Annual Report of Lane Hospital, including dispensary clinics of Cooper Medical College as out-patient department. 1895.

REPORT of Weather Bureau—Climate and Health. By W. F. R. Phillips, M. D., and Willis P. Moore, chief of Weather Bureau, Washington, D. C.

Publishers' Column.

Peroxide of Hydrogen.

Dr. Warren Brown, of Tacoma, Washington, in a paper on "Peroxide of Hydrogen," read before the Washington State Medical Society, and published in the *Medical Sentinel*, of Portland, Ore., February, 1896, after alluding to its method of manufacture, speaks of it therapeutically as follows:

Gonorrhœa may often be aborted by using a full-strength hydrogen dioxide injection immediately on the very first appearance of discharge. The injection should be used four to six times in twenty-four hours and retained for five minutes.

Cystitis, where pus is voided with the urine, often yields rapidly to injections of a solution containing two ounces to the pint.

Otitis media is treated by hydrogen dioxide solutions in various strengths from 6 per cent. upward.

Eye diseases, where there is a purulent external inflammation, are constantly being benefited by this agent. The Wills Eye Hospital, Philadelphia, uses a 50 per cent strength of the so-called 15 volume solution. Blepharitis marginalis is quickly cured by touching the edges of the lids once or twice daily with a strong solution, care being taken to avoid getting it into the eye.

Ulcers of all kinds improve rapidly under its use, and for treating and cleansing venereal sores, as chancroids, etc., it is of great service.

Empyema, especially where there is from the first a stinking sanous exudation following incision, is very satisfactorily treated by washing out the cavity with a solution from one-half to full strength.

In appendicitis, the abscess cavity is cleansed with this solution by many operators, in preference to any other antiseptic. Robert T. Morris, of New York, has laid special stress on the value of the peroxide in these cases.

In follicular tonsillitis, the use of a spray, diluted just enough to prevent the smarting sensation, and alternating with this, one of the alkaline antiseptic sprays, or gargles, is a very satisfactory procedure.

Diphtheria and all naso-pharyngeal inflammations where there is a pseudo-membranous and septic condition, have been treated very widely by means of this agent. I like the plan of Jennings in Detroit, who uses an irrigation of an aqueous solution of one-eighth each of hydrogen dioxide and listerine. He throws the solution into the pharynx with an all-soft rubber syringe every one, two or three hours. The plan is an admirable one for treating children, and the combination is pleasant and effective.

Atrophic rhinitis is benefited remarkably by the use of a 40 per cent. spray. It should be used a few minutes before the employment of the usual alkaline, stimulating spray, and the powder insufflations. In this way the scabs are loosened, muco-purulent secretions are dissolved, and a stinking breath is converted into one that is pure and sweet.

In acute cases of eczema of the leg, we find this agent of the utmost value. The tissues are inflamed, hot, swollen and oozing, the itching is almost unendurable, the odor is offensive. To secure the best results the limb is elevated, and a diluted solution of the peroxide is applied frequently, with cheese cloth, gauze or an atomizer. In two or three days a marked change for the better will be apparent, the pruritus is allayed, the purulent exudation is checked, and all inflammatory symptoms are subsiding. At this stage we begin the use of a soothing ointment, such as the boracic acid or zinc oxide, using lime liniment to wash the parts instead of water. Under this treatment, combined with rest, we will see our patient rapidly cured.

Eczema of the arms will rapidly improve if the fissures are touched twice a day with this solution, then dried gently with cotton, and a glycerite of lead application made. In nearly every form of acute eczema in the first and second stages the peroxide will give us the keenest satisfaction. The regular solution is diluted with two or more parts of water. Hydrogen peroxide is an excellent anti-pruritic and for this purpose it is widely used.

The hæmostatic value of this drug, as pointed

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out by Dr. Emerson Brewer, of New York, I can endorse. In operations on the nose and throat I have upon two occasions been enabled to check a persistent hemorrhage, when Monsel's solution and plugging had failed. At present I am in the habit of applying the full strength hydrogen peroxide after every operation on these parts. It is of special value after sawing out a deviated septum.

For flushing out a mammary abscess cavity this agent is invaluable.

Applied to the cervix uteri, adherent mucus is removed and our medications can be applied.

When it is inadvisable or impossible to make a complete opening of a fissure or abscess, irrigation with the peroxide will be found superior to all other antiseptics.

We have in peroxide of hydrogen a prompt, safe and efficient germicide. By its oxidizing power it rapidly decomposes pus, diphtheritic membranes, and other morbid putrifying material. It is a thorough deodorizer, and as a cleansing agent for foul wounds, abscesses, etc., it has no equal.

Of the different preparations of peroxide, Marchand's has been most uniformly satisfactory.

Since writing the foregoing paper my attention has been called to hydrozone, a stronger solution of peroxide of hydrogen, which for some months I have been using with much satisfaction.

The Hypnotic Effect of Pellotine.

Prof. F. Jolly reports his clinical tests with pellotine muriate (the new hypnotic introduced by Dr. Heffter, of the Pharmacological Institute of Leipzig, and manufactured by C. F. Boehringer & Soehne, of Mannheim) in the *Therapeutische Monatshefte*, June, 1896. He employed pellotine muriate, preferring this salt on account of its ready solubility in water; his experience covers 40 cases at the Charité Hospital of Berlin. In one-half of these cases the drug was administered during the day, either by mouth or subcutaneously; doses of 1/3 grain (0.02) caused languor and sleepiness in quiet patients, but usually this effect followed only after 3/5 to 9/10 grain doses—causing several hours' sleep within 1/2 to 1 hour after administration. In some cases the pulse rate was decreased, in others not at all, and only at the beginning of sleep. In painful affections (lancinating pains in tabes, neuritis and ischias) sleep was also induced, but an anesthetic effect was only occasionally noted before and after sleep. In excitable and delirious patients, the above-mentioned doses were insufficient; even 2 grain (0.12) doses did not produce sleep, but had a calming effect—lasting all day—on the patient.

In 20 cases the drug was administered at night as hypnotic, and 3/4 to 1 1/6 grain (0.05—0.08) doses were found to equal in effect 15 grains of trional or 22 to 30 grains of chloral.

Of side-effects, excepting the inconsiderable slowing of pulse-rate, a few patients exhibited giddiness and a feeling of unrest before sleep ensued; a few also complained of similar feeling upon awakening in the morning. In several cases the hypnotic effect was not produced, but in these other hypnotics had also proved ineffectual. In no instance were serious side-effects noted.

The author then quotes six typical cases from his records, in which 4, 1 and 5 hours' sleep were induced in three cases; one slept through the night for three consecutive nights; one slept peacefully through the night while otherwise her rest had been frequently broken; and one slept fairly well—although there occurred two periods of wakefulness.

Prof. Jolly's report is generally favorable, and he concludes that he will continue the use of this new agent and will render additional report after more extended trials.

A Vegetable Digestant.

Papain, the purified dried juice of the unripe fruit of *Carica papaya* (Pawpaw), is popularly called "the vegetable pepsin;" it has the advantage over pig's or other animal pepsin (aside from æsthetic palatability) that it will act in all media—acid, alkaline and neutral—while pepsin acts only in the presence of acid.

There is a prominent dissimilarity between the two products, however, which is not generally considered and may, therefore, often lead to unsatisfactory results in treatment, and that is, that papain is distinctly a better solvent of fibrine, or meat, than pepsin, while much less active on albumen.

The standard test for pepsin is its solvent power on albumen; for papain it is measured on fibrine. Of the two, considering that stomach derangements are usually due to too much or indigestible meat, papain is more valuable than pepsin, because

1. Papain acts in acid, alkaline and neutral solutions, while pepsin acts only in presence of acid;

2. Papain is a palatable vegetable product, acceptable to the most sensitive stomach, while pep-

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sin is an animal product, often putrid and always noxious;

3. Papain has a greater solvent action on fibrine than has pepsin.

A standard test for papain is the following:

"Take three glass-stoppered vials of 120 gramme capacity, marking them *a*, *b* and *c*, and put into each 10 grammes of finely chopped fresh beef, free of fat and sinews. Then add the solutions as follows:

to *a*. 30 grs. of 0.3 per cent. acid solution;
to *b*. 30 " " 0.3 " " soda carb. solution;
to *c*. 30 " " distilled water.

"Place the vials in a water-bath at 38° C. (100.4° F.), and when the contents have attained this temperature add 0.1 gramme papain to each vial, keep the vials at this temperature for one-half hour —frequently and violently shaking the contents— and then filter through muslin. Dry the residue on the muslin by exposure to 100° C. (212° F.) and then weigh; in the result the usual loss of 75 per cent. of water in drying meat must be considered.

"A standard purified papain* will, by the foregoing test, dissolve at least

50 per cent. fibrine in acid solution;
70 " " " in alkaline solution; and
60 " " " in neutral solution."

The same test performed with an average quality of pepsin will show only about 20 per cent. dissolved fibrine in one-half hour.

It should be observed that one-half hour is taken for this test, while the average time for stomach digestion is about three hours, and the official pepsin test requires six hours. Extending the time in above test to three or six hours, the quantity of meat could be quadrupled and more and the result would be the same. Two grain doses of papain will materially assist the digestion of an average meal of meat.

The conclusion to draw from these facts is, that papain can be advantageously employed in general practice to relieve indigestion where meat is a favored food, and that it will prove useful in combination with pepsin where the latter seems indicated to help along the solution of albumen. —*American Therapist.*

* Papain (Boehringer) was employed to verify these tests.

In Cases of Pernicious, Progressive Anæmia in Young Girls,

No matter from what cause, Dr. Mary Ward Mead, Camden, Ill., writing, says: "The arrest of development of the generative organs retards cure. I am early on the track for a speedy development in those slow puberty cases—and when I see the dormant spot puff for a mammary gland I know that restoration will surely follow—and to arouse this slumbering, sympathetic and vaso motor system Sanmetto is truly great."

Sanmetto in Catarrh of the Bladder with Enlarged Prostate.

Thos. Leary, M. D., L. R. C. P. I., L. M., Mem. Brit. Med. Assoc., Med. Officer Castlederg Dispensary, Workhouse and Farm Hospital, Castlederg, Co. Tyrone, Ireland, says: "I have used Sanmetto in several cases of catarrh of the bladder with enlarged prostate and much pain in urinating, and in every case it gave me very great satisfaction. I have therefore much pleasure in recommending Sanmetto in all such cases as a most valuable remedy."

THERE is no opiate that serves the purpose that does Papine. Bromida speaks for itself. Iodia is an alterative, unsurpassed in its merits. I prescribe these remedies, and specify Battle & Co. because they are so well prepared that I think no drug store or prescriptionist capable of combining their ingredients so nicely, so accurately, and all considered so reliably as they are coming from their laboratory.

West Nashville, Tenn., December 23, 1895.
J. H. GILES, M. D.

The Lightning Pains of Tabes Treated Posturally.

In *Therapeutische Monatshefte*, Dr. Blondel reports concerning a case of syphilitic tabes, that he was able to effect a cure of unendurable and obstinate lightning-pains in the following manner: He lay upon his bed, drew his thighs upon his abdomen, and bent his legs so that the knees and chin were brought together. Then a strap was passed around his neck and popliteal spaces, tightened and fastened by the patient himself, who remained in ball-like position for five minutes. After eight days of this treatment the pains disappeared. Upon their return the method was repeated once each month. For two years pains have been absent. This procedure, the result of which is to lengthen the spinal cord, does not present the danger of luxation of the cervical vertebra and does not require an especial apparatus.—*American Therapist.*

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Selections.

Laryngeal Tuberculosis.

By T. HILLIARD WOOD, M. D.,

Professor of Diseases of the Eye, Ear, Nose and Throat in the Sewanee Medical College; Professor of Diseases of the Eye, Ear, Nose and Throat in the Medical Department of the University of Tennessee, Nashville, Tennessee.

Read before the Middle Tennessee Medical Society.

About one century ago laryngeal turberculosis made its appearance in medical literature, and has since received an ever-increasing amount of attention from the profession.

ETIOLOGY.—The causes of laryngeal tuberculosis may be divided into two classes: 1. The predisposing; 2. The exciting.

As predisposing causes may be mentioned sex, age, and the tubercular diathesis. Men are more commonly affected than women, on account, perhaps, of the greater exposure which their mode of life entails.

While laryngeal tuberculosis may occur at almost any age, yet the large majority of cases occur between the twentieth and fortieth years of life. I have recently had a case in a patient sixty-eight years old.

That the tubercular diathesis is hereditary and is a powerful predisposing factor none will doubt. That of itself it is sufficient to cause the disease may well be questioned. I regard the tubercular diathesis as important in that it prepares the soil for the development of the seed—the tubercle bacillus, the active cause of tuberculosis.

Among the exciting causes of laryngeal tuberculosis is pulmonary tuberculosis. Tubercle in the lungs almost always precedes tubercle in the larynx. So constantly is this true in practice that some authors have declared laryngeal tuberculosis to always be a secondary disease. While I can see no apparent reason why tubercle might not be deposited primarily in the larynx, yet I have never met with a case, nor have many practitioners of large experience.

The method by which pulmonary tuberculosis produces laryngeal tuberculosis has provoked much discussion. The theory of Louis that it is due to the corroding action of the expectoration passing through the larynx is not plausible, and seems to have few adherents at present. It is much more probable that the laryngeal disease is due to the absorption of tubercle bacilli during the passage of the expectoration over the mucous membrane. Bosworth thinks that a previous catarrhal inflammation of the larynx is important as affording suitable soil for the development of the tubercle bacilli.

The question of contagion is germain to this subject, but I shall not discuss it further than to say that I firmly believe in the contagiousness of tuberculosis by transmission through the atmosphere and inspired air; and in treating these cases every means should be taken to prevent extension to other individuals.

Laryngeal tuberculosis occurs, according to different writers, in from thirteen to thirty-three per cent. of cases of the lung disease, and is generally developed in the second and third stages of the pulmonary trouble. The statistics of laryngologists upon this point, however, are liable to be misleading, because cases of laryngeal tuberculosis apply to them for relief from the throat symptoms, while the large majority of cases of consumption which have no throat lesions never come under their observation. Hence the per cent. of cases of laryngeal tuberculosis occurring in pulmonary consumption should be smaller than stated above.

Pulmonary tuberculosis is quite commonly followed by secondary deposits in various organs of the body. According to Heinze, the secondary deposits occur in organs according to the following descending scale: In the intestines, larynx, liver, kineys, pleuræ, spleen, glands, trachea, peritoneum, meninges, sexual organs, omentum, tongue, bronchi, pharynx, etc. (MacKenzie.) It is thus seen that the larynx is, next to the intestines, the most frequent site for the secondary deposit of tubercle.

PATHOLOGY.—While tubercle may be deposited in any portion of the larynx, yet the favorite site for the initial lesion is the membrane covering the arytenoids. Next comes the ary-epiglottic folds, the true vocal cords, and epiglottis. The deposit of tubercle is preceded by a pale, ænemic condition of the throat. Following this the arytenoids enlarge, having a pale, pear-shaped appearance. This deposit of tubercle breaks down, and an ulcer forms. These ulcers, by extension laterally, may involve any part of the laryngeal membrane. The tubercle may be deposited in the perichondrium, giving rise to perichondritis and necrosis of cartilage. When the vocal cords are attacked they become thickened, and later ulcers form, giving the cord a jagged outline.

SYMPTOMS.—One of the earliest symptoms is impairment of the voice. This may be due to either imperfect approximation of the cords, as

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when the lesion affects the arytenoids or inter-arytenoid commissure; or to defective vibration, as when the cords themselves are involved; and later, from the infiltration of the muscles and anchylosis of the articulations of the larynx, the voice may be still further weakened. I have never examined a case of laryngeal tuberculosis that did not have aphonia, and this symptom was found by MacKenzie in ninety-two per cent. of the five hundred cases examined by him. These patients, however, make themselves well understood by the whispering voice.

Another common symptom is difficult deglutition. This may be due either to the pain, or to the mechanical obstruction of an enlarged epiglottis, or to food entering the windpipe. Swallowing may become so troublesome as to constitute a grave condition on account of the difficulty of the patient's taking sufficient food.

Sore throat, cough, shortness of breath and expectoration are commonly met with. Hæmoptysis, occurring so often in these cases, usually has its source in the lungs. The tubercular ulcer in the larynx rarely bleeds, differing markedly in this respect from malignant ulceration, which bleeds so freely. The tubercular cachexia usually present in pulmonary tuberculosis has seemed to me to be exaggerated in the laryngeal disease.

DIAGNOSIS.—The diagnosis of laryngeal tuberculosis is made by the foregoing symptoms, by the presence of pulmonary tuberculosis, by the laryngoscope, and by the microscope. The presence of pulmonary consumption is exceedingly important in establishing the diagnosis. In this connection it should be remembered that the laryngeal disease is practically always secondary to the pulmonary, and that, therefore, to exclude lung disease is to cast the gravest doubt as to the tubercular nature of a laryngeal lesion.

With the laryngoscope every part of the interior of the larynx is plainly visible, and the features of the local lesion can be clearly seen. But when the ulcer is seen the question of differential diagnosis comes up. Is the ulcer a tubercular, a syphilitic, a malignant or a catarrhal one?

In tubercular cases the entire throat often seems pale. Again, the throat symptoms come on slowly and only after the pulmonary symptoms have existed for some time. On the other hand, in syphilitic cases the throat symptoms come on acutely, and are not preceded by pulmonary symptoms. In phthisis the ulcers are oftenest on the arytenoids, and are multiple; in syphilis the ulcer is oftenest on the epiglottis or ventricular bands, and is single. In phthisis the ulcers have ill-defined margins, and a pale, swollen base. In syphilis the ulcer has a clean-cut margin with an inflamed areola around it. In this differential diagnosis, however, the main reliance is to be placed on the microscope and the effects of anti-syphilitic treatment. With the microscope we usually detect the tubercle bacillus in phthisis; and mercury and potash relieve syphilitic ulcers, but do not benefit tubercular ones.

Tubercular ulcers of the larynx are distinguished from cancer by the fact that the latter occur usually after the fortieth year of life in people without consumption, and are generally situated on one of the false vocal chords. Moreover, the malignant ulcers usually have a fungus character, and are usually attended by a characteristic fœtor of the breath.

TREATMENT.—The treatment may be divided into constitutional and local. The constitutional treatment does not differ from that of consumption of the lungs. In this connection, however, I wish to advocate terraline as a substitute for cod-liver oil. Terraline, as is well known, is a product of petroleum. For the past eight years I have used it habitually in these cases, and for any case in which cod-liver oil is given. I have found it superior to cod-liver oil, not only in being far more palatable, but in the greater relief afforded the patient. It should be given, after meals, in tablespoonful doses, with an equal quantity of wine or whisky.

Locally the ulcers in the larynx should be cleansed, and if foul should be curetted. Some of the mineral astringents—as zinc, alum, or silver—should then be applied in solution by means of a spray; and, lastly, the ulcers powdered with iodoform, or an ethereal solution of iodoform sprayed into the throat. The application of lactic acid has some cures to its credit, but I have never used it.

An important indication to be met in many cases is the difficult deglutition. If this comes from pain, it may be relieved by blowing morphine diluted with starch or sugar into the larynx with an insufflator about one hour before meals; or perhaps greater relief may be had by spraying a solution of cocaine into the larynx just before taking food.

If the difficulty comes from the entrance of particles of food into the wind-pipe, the patient may, as suggested by MacKenzie, take the thick-

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ened liquids. Arrow-root, corn-flour, or isinglass may be used to give the proper consistence to the fluids. In extreme cases it is advisable to feed the patient through a tube introduced well into the œsophagus.

Tracheotomy has been done in these cases to facilitate respiration and afford rest to the larynx. It cannot, however, be said to possess real virtue, and is only justifiable in cases of threatened suffocation from acute œdema, impaction of necrosed cartilage, or some temporary and curable condition.—*Southern Practitioner.*

Bicycle Saddles and their Relation to Riders.

WM. H. BURR, M. D., PHILADELPHIA.

The question of the bicycle saddle is becoming one of interest and of large relative importance, when one considers the enormous extent of cycling at the present time. Up to two years ago, bicycling was looked upon as more or less of a fad, popular with a certain class who were always on the lookout for something new under the sun, but sure to have its decline and final demise according to the natural law that those hobbies that are ridden to death are sure to play themselves out. Much to the astonishment of the prophets in Israel, each year saw a large accession to the votaries of wheeling, and the business of the manufacture has so far over-reached other enterprises that we find bicycles exposed for sale in connection with almost every kind of merchandise.

The whole subject of the present and future relations of this new mode of locomotion to men and women, as regards its physiological and hygienic aspect, is one that must engage the attention of the professional and scientific man. We use the future tense in this connection to impress upon any one to whom this may come the fact that it is more a question of the future than the present.

Much has already been written about the injurious effects of bicycling, both to women and men, but it will take time to prove even the most reasonable theories. In the meantime, few desire to make themselves subjects for experiment, and there seems to be a large demand for something out of the ordinary in the way of bicycle saddles. There are conceded to be two elements of danger to be apprehended from ill-fitting saddles, and they may be briefly stated as being danger from spinal irritation, resulting from constant jar, acting through a springless saddle, and danger from the irritation and pressure upon the soft parts forming the base or floor of the pelvis.

The latter is the most grave, and there can be no question but that serious injury is likely to occur from this pressure. It is useless to compare the seat on a bicycle with that on horsback, but even if the comparison were made applicable, it would only be necessary to assert that horseback exercise indulged in excessively is followed by special lesions associated with that kind of exercise.

So generally have the injurious effects of ordinary saddles, when used by women, been commented upon, that we will simply pass that over as self-evident to all professional men. But there may be an element of danger to male riders to which so far we have seen no reference and to which it may be well to call attention.

A prominent Philadelphia physician recently remarked upon a prominent element connected with bicycle riding that he thought deserved attention. He gave it as his opinion that in a good many cases sterility in males was likely to be a common result. As an instance of the tendency of constant pressure upon the soft perineal structures to produce this result, he mentioned one or two Asiatic tribes who live entirely on horseback, and who are phenomenally effeminate or emasculate, and commonly sterile. That this condition would be a public benefit so far as some of our young men are concerned, none would deny, but if it was likely to become at all universal, it would become a public injury.

Fortunately for all concerned, those who make a business of manufacturing bicycle accessories are pressing forward in order to fill the emergency, and numerous models of saddles have been devised. The object in all of them is apparently to build a saddle in such a manner that the rider, in sitting upon it, shall occupy the natural position which one assumes when seated on a chair, and shall be entirely free from that pressure which must be present when the rider is suspended upon a saddle of ordinary make. The writer, having given the matter some thought, determined some time since to devise a saddle which should meet all indications for comfort and satisfy the demands of the average rider. In the meantime, however, several saddles appeared in the market which included, to a large extent, the plans already conceived, showing the truth of the old adage, that frequently ideas of importance

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are developed simultaneously in the minds of different individuals.

In presenting our idea of a comfortable and hygienic saddle, it might be well to refer in brief to some of the saddles in ordinary use, and later compare them with the more modern patterns.

Ordinary saddles may be divided into two classes, both of which are supposed to follow the idea of the equestrian saddle, but which differ in very important particulars. They may be differentiated as saddles with springs and those without, and of the two classes the former, though designed for the comfort of the rider, are, perhaps, the more dangerous. The important particular in which they differ from ordinary equestrian saddles is the fact that the pad or seat is suspended between peak and cantle, and there being no support across the width of the saddle, the rider is in most cases suspended upon a narrow ridge or leather strap, which follows the curve of the soft parts at base of pelvis from front to rear, and brings a constant pressure to bear on those parts.

If an equestrian simile is to be sought for, the case might be likened to riding a sway-back, attenuated, bare-back mule. A large class of riders, especially those among the scorching class who ride hard, claim that they do not have use for the saddle, as they ride on their pedals. This is almost a tacit admission that they cannot make use of the saddle even if they desire doing so.

There is, however, a large and increasing class of riders who ride for the pleasure there is in it, or for business purposes, and not simply to get there ahead of the fast express. To these some of the more modern saddles may appeal. The great point aimed at in this latter class of models is to do away with the objections previously referred to and to construct a saddle that will not interfere with free and speedy action, but at the same time be a comfort to the rider, and not followed with evil results. The writer has tried several of these models and has a good word to say for all of them. They are all a move in the right direction. One of the most popular of the recent saddles which has given us the utmost satisfaction and comfort is that known as the "Christy." Leather is used for the padding, a very important point, as, in the experience of the writer and that of many of his riding friends, the heat developed on rubber pads, as well as their unequal compression, condemns almost all the different patterns of pneumatic saddles.

The subject sketchily embraced above and only faintly outlined is, as intimated, one that deserves more serious consideration than it has yet received from the profession. If all the world will go a-wheeling, it is important, at least, to have some idea of the dangers to be avoided in such exercise. With each new method of motion are connected new and unforeseen complications incidental thereto.—*Medical and Surgical Reporter.*

Report of a Case of Cholelithiasis.

By T. R. Moss, M. D., Dyersburg, Tenn.

Read at meeting of Tennessee State Medical Society, April, 1896.

My reason for presenting this report is the obscurity which enveloped the diagnosis, as well as the long train of unpleasant symptoms in its history. The case in question was that of Mrs. J. M. B., aged forty-one, weight 230 pounds, living in conditions of comfort and ease. She was troubled with constipation, but aside from this her health had always been perfect, except about eighteen months previous she had an attack lasting ten or twelve days, with symptoms the history of which resembled biliary obstruction. She lived luxuriantly, and on May 24, 1895, ate quite heartily of the mid-day meal; among other things she partook freely of cold-slaw. Two hours after she was seized with an intense pain in the epigastro-hypochondriac region, extending back under the right scapula, from which she was not entirely free for several months. The pain did not continue severe all the time, but there was a constant burning as if a coal of fire had gotten in the stomach, which was very much intensified on taking food or drink of any description. This burning and pain was accompanied with vomiting, severe and persistent, made worse by irritation from ingesta, but coming at intervals when nothing at all was swallowed. It consisted mainly of acid, glairy mucus, in which at long intervals were intermingled minute specks of blood. Dr. N. S. Walker, who had charge of the case, stated that prior to my first visit no elevation of temperature had been observed, and on this occasion the mercury registered only 99½° F. Examination revealed a very tender and painful point on pressure, just below and a little to the right of the ensiform cartilage. No tumor could be detected. The pain, tenderness and persistent vomiting suggested the possibility of gastritis, which Dr. Walker already had under consideration. Jaundice was present, but not nearly so marked as it became later on. The temperature began to range higher, the pain and

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vomiting persisted, no kind of treatment seeming to give even temporary relief. In the course of a few days Dr. Sales, of Memphis, was called, and after a very careful examination gave as a diagnosis hepatitis. By this time the jaundice was more marked, and deep palpation indicated engorgement and sensitiveness to pressure in the liver. While Dr. Sales favored the idea of hepatitis, which might become suppurative, yet he related an instance where a patient, without symptoms to particularly indicate such result, had developed malignant disease.

The symptoms continued without abatement, rigors occurring, but no sweating, except that which came as the result of antipyretics. A few days after Dr. Sales' visit he was communicated with by telephone, when he advised aspirating the liver for pus. His presence was desired, but he could not come. The persistency of the pain in the same locality, the obstinate vomiting, the rapidly increasing jaundice, the conjunctiva, skin and urine clearly indicating the presence of bile in abundance, the rigors and absence of bile in feces, connected with the sudden onset, suggested to Dr. Walker and myself the possibility of biliary obstruction. Therefore, on the morning of June 13th, we administered six ounces of olive oil, and in the afternoon, June 14, there were several alvine evacuations heavily charged with bile. We regret that the discharges were thrown away before a search by straining was made for calculi. The diagnosis still being unsettled, Dr. A. B. Halder, of Memphis, came up on the morning of the 15th, and, after a most thorough and critical examination, advised an exploratory operation for the purpose of ascertaining the cause of trouble. Accordingly preparations were made for an immediate operation. An incision was made over the region of the gall-bladder, and the organ partially exposed. It was found adherent to the surrounding parts, and could not be brought well up into the wound. It was contracted and, to my touch, of semi-solid consistency, this semi-solidity, in Dr. Halder's opinion, amounting to a "stony hardness." The contracted condition of the gall-bladder, the "stony hardness," its fixedness and the apparent absence within its cavity or in the ducts of calculi, seemed to preclude the advisability of further operative interference. After palpation and inspection, and as a matter of precaution, introducing an aspirator with negative result, the liver was thought to be normal, and therefore hepatic abscess eliminated. Considering the trouble irremediable and most probably malignant, Dr. Halder so announced, and proceeded to close the opening. The patient bore the operation splendidly and reacted well. There was at once a decided amelioration in the symptoms, the temperature ranging below 100° F., the pain not so severe, the vomiting more infrequent, the dejecta continuing to show the presence of bile, the urine rapidly losing its saffron hue, and the skin and conjunctiva gradually assuming their normal appearance. At the time it was difficult to divine whether the change was due to the olive oil on the 13th, followed by bilious discharges on the 14th, or to the operation on the 15th, with the manipulations necessary to the same. Competent observers say that aspiration of the liver, though no pus be found, is often followed by improvement, hence this might be the reason. On the other hand, occasionally calculi are entirely liquefied, and not discovered with the most careful search. The latter seemed most plausible.

After several backsets, attended with high fever, in which quinine was freely and effectively used, she finally became able to sit up a short time each day, but with a great deal of distress, as the nausea was very much increased and a "stuffed feeling" and sense of heavy weight was much more pronounced on assuming the erect position. On the 28th she ate a small amount at the mid-day meal. During the afternoon the pain returned, but radiated in every direction, so that it was mistaken for ordinary colic, and a simple remedy was administered. It failed to give relief, and as the pain grew more intense an opiate by hypodermatic injection was resorted to. On the morning of the 29th a rigor occurred and the temperature ran to 102°; later in the day another rigor, the temperature rising to nearly 105°. The urine became loaded with bile, the conjunctiva and skin rapidly assumed a deep yellow, the lips and finger-tips were cyanotic, the facial expression pinched and the pulse 130. Dr. Walker was sick, and I, left alone, gave antipyretics with baths, and immediately began the rectal administration of quinine, 100 grains in twenty-four hours. This was continued for several days. In this way the temperature could be somewhat controlled. On lessening the amount of quinine the temperature would rapidly increase, and upon its resumption would again subside; hence, this heroic dosing was justified.

On the morning of August 30th I gave six

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ounces of olive oil by the stomach, which was retained, and in the afternoon of the 31st she passed a gall-stone about the color and size of a hazel-nut, causing a temporary change for the better. But the vomiting persisted, and it seemed impossible to suggest a form of nourishment which could be retained. To this was added an aching in the limbs, most prominently the left arm and leg, with a burning in the bottoms of the feet. These symptoms, with the extreme hot weather, conspired to make the patient devoutly wish for death. Later on the pain grew more intense, the stomach became, if possible, more irritable, the vomiting of glairy mucus more frequent, and the skin, urine and eyes indicated a resaturation of the blood with bile. The bowels being constipated, I administered a c. c. pill, and the next afternoon was rewarded by finding a second stone larger than the first. During the interval between the passage of these stones, quite a considerable quantity of inspissated bile was voided. From the passage of the last stone the improvement was slow, but continuous, until the feeilng of fullness, pain and discomfort had entirely disappeared, and she could eat anything she desired with impunity. The skin and eyes cleared and flesh began rapidly to accumulate.

The suffering in the limbs did not cease entirely, but with this exception health seemed about restored, when on March 18, 1896, she was again seized with pain and burning, exactly as before, with a temperature of 103°, but no vomiting. Jaundice made its appearance in twelve or eighteen hours, and every symptom pointed to a return of the original malady. Eight ounces of olive oil were given within a few hours, and this was followed by a whitish, pasty stool the next day. Several ineffectual efforts, as evidenced by pain, were made for the stone to be forced through the duct. Full doses of calomel, followed by salines, phosphate of sodium, and c. c. pills were tried, but the feces continued to show an absence of bile. Evidently the cessation of each paroxysm was caused by the stone slipping back into the gall-bladder, as the burning and most of the tenderness disappeared with the pain. The attacks came from two to four hours after the mid-day meal, when more food was taken, and hence a greater demand for bile to aid in its digestion. The tertian of intermittency which the paroxysms assumed excited the suspicion that in some way a malarial element was cutting a figure in the causation; therefore, I saturated the system with quinine, and on the night of the 28th gave two c. c. pills. On the morning of the 29th a third stone was found, similar in color and size to the others. Because of its effect on the catarrhal swelling, as well as a relaxation of the duct-walls, I suspect the quinine was an important factor in aiding the expulsion of the stone. At the time of this writing the patient is again rapidly convalescing.

You can readily see the diagnosis in this case was not easily settled, and because of this the interest became very intense to those directly concerned. The history of perfect health, with the exception mentioned, the free indulgence of cold-slaw and the sudden onset of pain a short while after, the vomiting and burning so severe and persistent that an ice-bag was kept over the epigastrium constantly for three weeks, the foul breath, the rapid small pulse, heretofore not mentioned, pointed with so much positiveness to gastritis that it was perfectly natural this should be considered. There can be no doubt about the presence of an acute gastro-duodenal catarrh, resulting from the irritation to surrounding parts of the impacted gall-stone. This catarrh came near costing our patient her life through its interference with the nutritive process. Hepatic abscess frequently forms in such an insidious manner as to deceive the very elect. I remember a case occurring in Bellevue Hospital, under the service of E. G. Janeway, which had been mistaken for a remittent form of malarial fever. In another case, in the practice of a country physician, an old man of seventy developed the history of abscess of the liver, but a diagonsis to that effect was not made. Finally, rupture into the lungs and death from apœna was the result. Again, in my own practice, as a sequel to an attack of dysentery, an old man of sixty presented the symptoms of suppurative hepatitis, with the exception that instead of bulging there seemed to be a retraction of the right hypochondrium. An aspirator was not introduced, and the patient died without rupture or a verification of the diagnosis.

In the case under consideration, the symptoms suggestive of inflammation, and later suppuration in the liver, were climate, free indulgence in rich, highly-seasoned food, sedentary life, with constipation, gastro-duodenal catarrh, jaundice, pain and tenderness, and fever and rigors. On the other hand, suppurative inflammation of the liver is rare, and the pyrexia and rigors are usually

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attended with profuse sweating. Jaundice, to a marked extent, is generally absent, and when present is *per se* not a very valuable diagnostic symptom, depending as it does on a catarrhal swelling of the bile ducts or pressure on these ducts from accumulation of pus. Pain is not so acute or suddenly developed as a rule, unless associated with a local peritonitis. The question of malignancy was the one which gave most concern. Bartholow says: "When at or after middle life, in a patient with a history of former attacks due to gall-stones, there begins a fixed painin the right hypochondrium, and subsequently jaundice, the existence of a malignant growth in connection with the cicatricial tissue and ancient organized exudation should be suspected, and this suspicion will be confirmed if subsequently a tumor can be felt." Again, "And especially are organized exudations the favorite seats of cancer and new formations, those, for example, about the gall-bladder and cystic duct, resulting from repeated attacks of passage of calculi." The persistency of the pain, the history of a former attack, though of shorter duration, the contracted and adherent gall-bladder and the vomiting—age considered—presented an array of symptoms suggestive of malignant trouble. Yet the slow development, the fawn or bronze color of the skin, prior digestive disturbances, the peculiar cachexia and the existence of a tumor, were conspicuous by their absence.

The indications pointing to gall-stones as the cause of the trouble are climate, age, sex, sedentary life and indulgence in the pleasures of the table, history of a previous attack, the abrupt onset with the characteristic pain, followed shortly by jaundice, indicating biliary obstruction, which had not the time to form outside and occlude by pressure, but must be inside the duct or ducts preventing the transit of bile; the passage of typical gall-stones, though this may take place in connection with malignant disease; the gradual return to health, as indicated by cessation of all pain, vomiting or inconvenience of any description whatsoever in the regions of the stomach, gall-bladder and liver; clear, healthy skin and a re-accumulation of flesh to nearly 200 pounds.

I have reached the following conclusions: The diagnosis of simple gall-stones, especially when impacted in the common duct, as these were, is not always an easy matter. Two of these stones were lodged in Vater's fossa for a period of two months, in the case of the first, and three months in that of the second. The slight diminution in the severity of the symptoms, after the passage of the first stone, was due to the lessened distention in the duct by the one remaining. Sweet oil probably has some virtue in biliary obstruction, as evidenced by the copious discharges of bile following its first administration, and the expulsion of a stone after the second; but the fact that it was given several times without result —which in order to avoid details I have not mentioned—and two of the three stones accompanying the purgative action of cathartic pills, lessens to some extent the confidenue in oil, giving rise to the thought that any active cathartic might do as well, and that the passage of the stones into the intestines was due to the combined influence of quinine and morphine. It would be interesting to know what per cent. of obstructed bile-ducts take on malignant growth.—*Medical and Surgical Reporter.*

A Practitioner of Sixty Years Ago.

Tempora mutantur, et nos mutamur in illis.

By Geo. D. Crothers, A. B., M. D., St. Joseph, Mo.

There recently fell into my hands a day-book kept by my grandfather, Dr. Milton Dunlap, of Ohio, during the years 1831–32. A perusal of its pages has been interesting and instructive, as therein is found evidence of the marvelous change in the practice of medicine and surgery, as well as in social conditions, in the course of a half century. That Dr. Dunlap had an extensive practice is attested by his record of about 5,500 obstetrical cases, covering a period of fifty years. Incidentally it may be stated that it was through his encouragement that his brother, Dr. Alexander Dunlap, of Springfield, O., in 1842, undertook his first abdominal section, thus beginning a career remarkable alike for courage in face of popular and professional prejudice, and for the brilliancy of its achievements. A large proportion of his 480 laparotomies were performed prior to the introduction of aseptic and antiseptic methods, and some of them before the days of anæsthesia.

Graduating from the Ohio Medical College of Cincinnati in 1830, Dr. M. Dunlap settled at once in Greenfield now a town of 4,500, where his life was spent. At that day no palatial drug-stores occupied the chief business locations in the town. The bitter conflict between dispensing doctor and prescribing druggist had not begun.

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Patent nostrums, encouraging by extravagant claims self-medication, had not begun to play upon the credulity of the humbug-loving American. The voice of the quack, hawking his wares, was not heard in the land. Saddle and saddle-bags answered instead of carriages. Princely equipage demanding princely income was not dreamed of. Board cost $1 per week, office-rent $1 per month and stable rent 50 cents per month.

Pathology, to a great extent, was based on the doctrine of humors, as it had been since the time of Hippocrates. The proper mixture of humors produced temperaments. Thus there were bilious, sanguine, lymphatic and mixed temperaments, depending on the predominating humor. If the equilibrium of the humors was impaired, blisters, plasters and phlebotomy were in requisition to restore it. Bleeding! It was a panacea. Everybody was bled and for well-nigh everything, and the price for this service (12½ cents) was within reach of all. Midwives, gardeners and blacksmiths, as well as physicians, performed the simple operation, often to the detriment of the patient.

Blisters occupied a warm place in the estimation of profession and laity. A stray scrap of a note-book, found between the leaves of the day-book, comments thus sagely on this popular remedy: "The influence of warm applications in promoting suppuration is acknowledged by every person. The next means of promoting this process is the application of irritants to the part. The *modus operandi* of blisters applied over the seat of inflammation is as follows: It appears from experience that if we induce inflammation in one part it more quickly ceases in the original part inflamed. We ought in most places to apply our blister as nearly over the inflamed part as we can, except on the head, when it should be applied to the nape of the neck. We ought to proportion the size of the blister to the size of the inflamed part. We ought not to carry irritation to the extent of disturbing the system," etc. On one page I find these entries:

James —— Dr.
To call and blister ..... .25
William —— Dr.
To blister and pills..... .37½
James —— Dr.
To blister..... .18¾

The fraction reminds us that the shilling was the current medium, hence such amounts as 12½, 18¾, 31¼, 37⅝, 43¾, 62½ cents are quite common.

The Burgundy pitch plaster, of which nineteen were charged on a single page, was a highly esteemed cough remedy, applied between the shoulder blades. It consisted of a piece of leather smeared with a thin layer of Burgundy pitch, mixed with a little beeswax. By many it was worn uninterruptedly from the coming of frost till the return of the swallows.

From what has been said it will be seen that the fee-bill was arranged to suit the convenience of the patient, and payment was often made in articles of domestic consumption. Possibly the frequency of the entry, "To obstetrical attention," accounts for the fact that the fee never exceeded $3, and was often less. Or, possibly, the habits of life and dress made the duties of accoucheur so light that the fee was ample. Most of that $3 generation now sleep with their fathers, but let no one say that they were inferior to the $20 product of to-day. Yet who will sigh for "the good old times" when statistics (one of the three great classes of lies) show that the mortality rate in maternity cases was 6 per cent.

The festive dentist had not appeared in those days of simplicity, to extract molars from the jaw and shekels from the pocket. Mechanics and barbers divided with the physician the duties of the oral artist. The gold that glitters in the mouth of many a fashionable dame in this age of extravagance would have kept a family in luxury for a year, or if expended in pulling teeth at the doctor's uniform rate of 12½ cents (18¾ cents for two) would have rendered whole counties toothless!

Surgery was not more than an incidental factor in practice. The complexity of modern life, with its manifold contrivances for locomotion, its great factories filled with complicated machinery, the crowding of population into throbbing centers of activity, has made living itself more hazardous. Daily appalling accidents occur, in which every variety of injury calls for the highest skill of the surgeon. He who can handle with dexterity the knife, saw and needle by very force of the dramatic elements that accompany his art, may charge what he please. Sixty years ago the charges for such services bore a more just proportion to those for medical treatment than in this age of spectacular performances. Let those who flaunt the legend, "Practice Limited to Surgery," con with quickened conscience these items:

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To setting thigh-bone.....$3.00
To dressing wound ..... .25
To visit and lancing abscess..... .25
To setting arm 1.00
To lancing breast..... .25
To two visits, perforating frontal sinus and medicine 4.00
To visit and dressing ankle..... 1.00
To amputating hand and salts (!) 5.00
To visit and reducing hernia 1.25
To visit, opening abscess and pills..... .50
To two visits and puncturing bladder..... 3.00
To dressing wound and medicine..... .62½

This time-stained book is not a bad record of character. Now, here is Andrew M., a skin-flint, who haggled with the doctor till he made the entry,

To call and medicine (*if cured*)..... .50

Poor Andrew! He must have gone from bad to worse; for, though he has long since paid the debt to nature, this debt remains unpaid. Such stipulations at this day would be called unprofessional. "No cure, no pay," is quackery of the worst sort. But this is the only time the doctor's foot slipped, so far as the record shows.

Here is John B., a thrifty man. Doubtless he died rich, but leaving no creditors to mourn his loss, for beneath his name we find:

To oleum ricini (partly returned) ..... .25

Henry B. was one of those go-ahead farmers who could not consent to lose more than a day's time when a mere trifle like health was involved; so the doctor cures him in a hurry, charging thus:

To attention, blister, emetic and purge..... .62½

Jonathan L. got the worth of his money, as witness this entry:

To two visits, calomel, bals. copaibæ, spts. ntr.... .75

A great variety of drugs is presented, largely vegetable products. It is safe to assert that few physicians of to-day use in their practice as varied an assortment. Yet the favorites are easily noted: Calomel and salts, oleum ricini, "pink and senna," pix Burgundy, blue mass, wine of antimony are the leaders out of a list of almost a hundred drugs.

Without interrupton Dr. Dunlap practiced for fifty-five years, when a slight stroke of paralysis caused him to confine his work to his office. Another stroke five years later rendered him comparatively helpless. He died in 1893, at the age of 83. His sturdy manliness, combined with an unvarying equability of temper, made him a universal favorite in the sick-room. Intolerant of charlatanry, he avoided, in conversation, the technical phrase of his art, and not infrequently rebuked prudery by his plain language. His personal advantage was ever subservient to his generosity, so we find him a poor collector.

With modification, we may apply to him the description of the "Doctour of Phisik" by Chaucer:

He knew the cause of every maladye,
Were't of hoot or colde, or moyste or drye,
And where engendred, and of what humour;
He was a very parfight practisour.
The cause I know and of his harm the roote,
Anon he yaf the sick man his boote.

* * * *

Of his diets mesurable was he
For it was of no superfluite,
But of gret norisching and digestible.
His studie was but litel on the Bible,
In sangwin and in pers he clad was al,
Lined with taffata and with sendal.
And yit he was but easy of dispence,
He kepte that he wan in pestilence.
For gold in phisik is a cordial,
Therefore he loved gold in special.

—*Medical Herald.*

Oxygenized Chloroform, the New Anæsthetic.

By Charles S. Elder, M. D., Denver, Col.
Ex-Resident Physician St. Luke's Hospital.

The whole superstructure modern surgery rests upon the existence of certain substances which will render the patient anæsthetic. Without such substances any considerable operation is either impossible or impracticable.

It is no marvel, therefore, that the few agents which thus support such an important branch of the healing art should ever be the subjects of discussion, investigation and improvement. Our medical societies hold symposia upon anæsthetics to discuss their relative danger. From Germany we are told to spray the upper part of the respiratory tract with cocaine to prevent the initial symptoms of strangulation and suffocation. Inhalers for the administration of each, either or both chloroform and ether together fill the market, and finally a mixture of chloroform and oxygen emanates from a Philadelphia homeopathic hospital, bearing with it the recommendation of safety, convenience, pleasantness, and of its administration being followed by a quick recovery, with no nausea or vomiting.

Each alleged improvement in substance or in method of administration which presents itself in

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the horizon rises rapidly to an exalted zenith, from which, usually, it as rapidly declines. Such seems to be the inevitable history of the latest anæsthetic, oxygenized chloroform, which I propose to discuss in this paper.

Since comparatively few have seen the chloroform oxygen apparatus, a brief history of it seems, in the first place, appropriate.

A small amount of chloroform is put into a glass jar, constructed like a wash bottle. That is, the jar is closed with a screw top, which is perforated by a long tube, reaching almost to the bottom, thus dipping into the chloroform; and a short tube, which merely penetrates the top. To the long tube a tank of oxygen is attached by rubber tubing. To the short tube a mask fitting over the patient's nose and mouth is likewise connected. Thus, when the oxygen is turned on at the tank, it passes down through the long tube into the chloroform and bubbles up, bearing with it the vapor of the anæsthetic into the short tube and is carried over into the mask. This method of administering chloroform is credited with many virtures, among which safety to the patient is the greatest, and yet, so far as I know, it has never had a thorough, rational, as well as experimental, examination.

It seems to me that faith in the mixture of chloroform and oxygen is built upon this proposition: If an agent of health is good in any particular dose, its benefits must increase in proportion as the dose increases. This philosophy finds its firmest foundation in the minds of the laity. Although the profession has frequently to combat it, still in its own experiments and reasonings it occasionally "bobs up serenely," holds for a day all but undisputed sway, then dies, after itself having caused other deaths.

We know: First, that hæmoglobin is saturated with oxygen when the latter has a pressure of 20 m. m. of mercury.

Secondly, that the pressure of oxygen at sea level is 150 m. m. of mercury, and even at 10,000 feet above sea level the pressure is still 110 m. m. of mercury. Therefore there is always in the atmosphere a tremendous superabundance of oxygen.

Thirdly, the amount of oxygen taken up by the hæmoglobin is not in proportion to the pressure of oxygen, but in proportion to the amount of hæmoglobin.

Fourthly, the expired air has only 4.5 per cent. less oxygen than the atmosphere. We are sure therefore that the pressure of oxygen in the air cells is many times more than competent to do all for us that oxygen can do.

It follows that the only function which oxygen can have when it is mixed with chloroform is as a passive vehicle for the vapor of the anæsthetic. The administration of chloroform with oxygen is nothing more than the presentation of the same old chloroform through a new apparatus.

The method of administration then is responsible for all the virtues or faults of the new combination. One difficulty with this method is that the oxygen bubbling through the chloroform does not become well laden with the vapor of the latter and consequently it is usually a long and tedious task to get a patient anæsthetized. The more rapidly one turns on the oxygen, the more rapidly it passes through the chloroform, and consequently the less of the chloroform it carries. The gas under great pressure escapes around the sides of the mask, and so makes further loss. The process of "putting a patient under" with this new apparatus is almost a bootless task, for the more of the mixture one gives, the less, relatively, he accomplishes. Absolutely there is a gain in the amount of chloroform given, but as compared with the amount of oxygen used and the amount of oxygenated chloroform which escapes around the mask there is a great loss perceived.

Few patients are gotten completely under the anæsthetic by this process. They seldom have perfect relaxation of muscles and loss of corneal reflex. To this fact is to be attributed the rapid recoveries unattended by nausea and vomiting.

It is not true that patients keep rosy lips and cheeks during the anæsthesia any more than they do with chloroform, nor do they recover any better or quicker, provided narcoses be of equal depth and duration.

Chloroform as ordinarily given is a more powerful anæsthetic than when given by the new process, therefore the anæsthesia is apt to be more profound unless it is administered with more care. But to argue that oxygenized chloroform is safer for this reason is to insist that it is better because it is less efficient.

Such are my conclusions concerning oxygenized chloroform, and my experience verifies them. I was the first to administer the combination in Denver and since its introduction I have exhibited it as often, if not more often, than any other person here, except my brilliant young colleague at St. Luke's Hospital, Dr. A. J. Loustano, whose experience corroborates my own.—*Col. Med. Jour.*

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The Practical Performance of Vaccination.

By W. A. HARDAWAY, M. D., ST. LOUIS, MO.

Professor of Dermatology in the Missouri Medical College.

Read by invitation before the City Hospital Medical Society, May 21, 1896.

The medical world believes, and this belief has been amply confirmed by a century of cumulative experience, that when Jenner vaccinated James Phipps on the 14th of May, 1796, he performed an act of incalculable benefit to the human race.

We revere Jenner as one of the greatest physicians and philanthropists, and we have unbounded confidence in the protective influence of cow-pox; yet, singular to say, and I say it with profound humiliation, the majority of medical men are ignorant alike of the science and art of vaccination.

This culpable ignorance is likely due to the apparent simplicity of the little operation, and the usually trivial character of the disease that it induces.

"If," declares Mr. Marson, "a little operation—little in practice, but very important in its results—well performed can save many lives, as most certainly it can, and prevent much suffering and sorrow, it should surely be done with the greatest care and in the best known way."

However vital it is to know how to vaccinate properly, it is of equal or greater importance to be familiar with the several phenomena or symptoms of the disease. If a farmer should plant turnips he would naturally expect that turnips, in due season, would come up; and he would be a very bad farmer indeed if he were unable to tell the difference should cabbages or radishes or even noxious weeds make their appearance instead. So the physician who plants vaccine germs should be able to tell the true from the false, and have an intimate acquaintance with the various features of the vaccinal disease.

This widespread ignorance of the symptomatology of vaccinia, together with the heedless performance of vaccination, is directly responsible for its occasional untoward results, its prophylactic inefficiency, and, as a consequence, the public skepticism as to its virtue, and the sometimes violent opposition to its practice.

The only cure for these evils lies with our medical schools, in which vaccination should be taught theoretically and practically, but where, as a matter of fact, with few exceptions, it is not taught at all, or only in the most perfunctory way.

Having said so much by way of preface, allow me now to consider, as briefly as may be, the question that gives the title to this paper, namely, certain considerations on the practical performance of vaccination.

1. Condition of the person to be vaccinated. Under ordinary circumstances the individual to be vaccinated should be in good health. Acute febrile processes markedly interfere with the normal course of vaccinia; but, on the other hand, chronic disorders, including syphilis, offer no bar. Intestinal and cutaneous affections decidedly contraindicate the operation. It is well to remember besides that certain disorders, such as eczema, for instance, are usually aggravated by vaccination, and may even be evoked by it. Measles and other exanthemata act the same role, and at once show that post vaccinal eruptions are not due to impure virus, as is often charged, but are the result of other conditions. It has been said that pregnant women should not be subjected to vaccination, but the opinion of the best authorities does not sustain this contention.

The rules as to the persons fit for vaccination are necessarily modified by circumstances; for if an individual be exposed to the risk of small-pox infection, it is a plain duty to disregard altogether any, or all, contraindications; and even a child born in the midst of variolous contagion should be vaccinated at once.

2. Age. Since young children are the chief sufferers from small-pox—one-fourth of all fatal cases occurring in the first year of life—it is apparent that vaccination should not be delayed beyond a reasonable period.

It may be stated as a safe general rule that when the health of the child permits, the operation should be performed about the age of three months. This time of life is particularly suitable from the fact that it anticipates the dental epoch, which, with its irritations and derangements, might seriously interfere with the normal development of the vaccinia. Another not unimportant reason for selecting this age is that as hereditary syphilis is apt to show itself before this time, the vaccination cannot be accused of producing it—an accusation that ignorance or self-interest is bound to make.

3. Performance of the operation. As regards the actual operation of vaccinating, I shall confine my remarks to a few suggestions that seem warranted by experience, and to whose neglect we

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owe much of the current bad or indifferent vaccination.

In the first place, it is needful to insist that the operation of vaccination is as important in its way as any of the major operations of surgery, and that to avoid the danger of infection it should be performed under the strictest antiseptic precautions both for the patient and physician.

Since practically only bovine virus is now employed, it must be remembered that it is much less soluble than human albumen, and consequently when dry lymph is used it must be thoroughly revived with clean water or steam vapor to insure its absorption, and, moreover, if an abrasion operation is made, it must be patiently and gently rubbed in for a considerable time. The lack of these simple precautions accounts for most of the retardations in its taking, and also for the many complete failures.

Fluid lymph is always to be preferred when obtainable.

I have come to the conclusion from long observation that introduction of the lymph by puncture is by far the best method, and much less apt to give rise to bad results.

Ortega states that in an epidemic in Mexico, in 1890, the greater efficacy of vaccination by puncture over the abasion methods was very apparent. Many cases presumably successfully vaccinated in the latter manner contracted variola or responded to revaccination, while neither of these events was usual after puncture. The pustules occurring in the scraping method he thinks were due to ordinary septic infection. At any rate, it must be admitted that abrasion does considerable violence to the skin, and certainly opens the door to infection.

Vaccination should be done in the classical site on the arm, and never on the leg as a concession to fashion. The vaccinal wound should be protected by a thin layer of aseptic cotton wool, so as to prevent injury and the risk of extraneous infection.

Everyone is familiar with Marson's table, which shows so conclusively that both the quality and quantity of the vaccination bear a vital relation to subsequent protection from small-pox. Seaton says that in vaccinating by puncture not less than five should be made at a distance of one-half inch apart.

If abrasions are made the united areas of the separate cicatrices should amount to half a square inch.

4. Inspection of Results. Vaccination having been duly and properly performed, it is the duty of the medical man to see that the disease thus produced runs a normal and typical course. Nothing could be more unfortunate than an inefficient primary vaccination; for a false security is thereby engendered, which may not only be disastrous to the individual, but will bring the cause of vaccination into unmerited disrepute. The subsequent career of a vaccination should be watched with the same care and anxiety as the after treatment of any surgical operation The physician should impress upon his patient the necessity for this watchfulness, and explain that a sore arm does not necessarily mean protection against small-pox; but that vaccinia runs a certain typical course, the various stages of which can only be properly appreciated by expert knowledge.

The English vaccination laws require that a vaccination should always be inspected on the eighth day following. Seaton urges that the patient should also be seen on the 11th and 12th days, so that we may be assured that the stage of areola, "the index of safety," has been passed satisfactorily. At any rate the vaccinator will have done but half his duty who fails to have his patient return at least the day week from the date of vaccination.

Yet another word: If physicians would increase the charge for vaccination in some relative proportion to the importance of the operation, not only would the medical man himself take more interest in its success, but the patient would more fully appreciate its utility.

It may seem to some of you, perhaps, that I have laid too much stress on a subject that should be as familiar as the alphabet, but we all know, alas! too well, that these fundamental principles are constantly and wilfully neglected. I have, therefore, taken advantage of the opportunity so courteously offered by your society, to reaffirm the teachings of Jenner, and thus best honor his memory, and to ask your assistance in re-establishing an art that "duly and efficiently performed," may in a measure at least realize the noble dream of the master.—*The Tri-State Medical Journal.*

The regular term of the Milwaukee Medical College and School of Dentistry begins September 15th. Indications are for a large attendance.

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The Influence of Deafness Upon the Development of the Child.

By H. A. Alderton, M. D., Brooklyn, N. Y.

Read Before the Louisiana State Medical Society, May, 1896.

Through the eye and the ear the child receives most of its impressions, which are more or less correctly interpreted, according to the degree in which the reasoning powers are developed. It is necessary, in order that the child may not be led to false conclusions, that these impressions be supplemented by instruction from those who are capable. This instruction is mainly communicable through the channel of the organ of hearing. Hence any impairment of hearing must disadvantageously influence the development of the child primarily in two ways: first, through a curtailment of the field of observation; second, through a limitation of the possibility of instruction. These limitations react upon each other, and both adversely influence the child.

The first impression given by a hard-of-hearing child, to those brought in contact with it, is one of inattention. They come to regard the child as being somewhat dull and absent-minded, and imperceptibly get into the habit of speaking sharply and bruskly in order to attract its attention. The child is often reproved for not paying attention to things it has not heard, or for not doing things it was not aware it had been requested to do. There often grows up a feeling that the child is "putting on" to a certain extent. The child gradually begins to appreciate the feelings it inspires, and this tends still further to limit its receptivity by rendering it sensitive and fearful of ridicule and harshness. The too frequent use of these last breed a carelessness of reproof and of desire to please on the part of the child, who too often feels itself the victim of thoughtless injustice. At school the child, because of inability to hear the teacher and fellow-pupils, becomes inattentive in fact, and, losing instruction, does not progress as do the others. Falling behind in the studies and having the appearance of being dull and slow, the teacher's effort to instruct becomes more and more perfunctory and valueless, and, unfortunately, even at times intolerant. The child, losing interest in what is going on around, finds the time hanging heavy on its hands, and is, as a natural consequence, led to expend its mental and physical energies in ways that are forbidden by the discipline of the school. This brings forth reproof and punishment, yet for the same reason the child is tempted again and again to run the chances of incurring these, because of its lack of other interest or occupation.

At play, discovering an inability to take part in the games because of its infirmity, the child gradually loses interest and follows pursuits which do not require the co-operation of others. Lacking thus the incentive to exercise which comes from companionship and the attendant competition and collaboration, malassimilation and malnutrition increasingly make inroads upon the system in general.

At home where one should naturally suppose that great allowance would be made for this infirmity, we find that it is usually the last place in which it is acknowledged and the place where it is least tolerated. By the time the parents are willing to admit that it is not dullness, but deafness that is the trouble, they have got into the habit of regarding the child as stupid, inattentive and insubordinate. The other children plague and ridicule, and the parents, fatigued by a conscientious effort to discipline and control, usually deprecatingly fall into a half-hearted determination to let things take their own course. Could one but hold up the picture before the eyes of the parents while yet the child was in a condition of possible recovery, how anxious and grateful would they be for any suggestion of means to prevent the many serious results. But, unfortunately, the case progresses so gradually that before they are aware, the damage is done, and all the regrets and recriminations are useless. The habit of the child and of the parent is formed and cannot be amended.

The effect of these various influences upon the development of the child is unfortunate in the extreme. The mind, deprived of its customary cultivation, ceases to expand in proportion to the growth of the individual; the child is "backward." The disposition, constantly disturbed by contempt, ridicule, harshness or over-consideration, becomes uncertain and unreliable, sensitive and uncontrolable. The bodily health, by want of fresh air and exercise, mental worry and disturbance, becomes impaired; the osseous, muscular, vascular, respiratory and nervous systems all feel the effects of malassimilation and malnutrition—especially when the deafness, as it so often is in childhood, is combined with, or due to, development of adenoid growths in the naso-pharynx. All of these influences, combined, result in producing the narrow-chested, small-boned, feeble-muscled and mentallly inactive

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specimens we so frequently see in the dispensary clinics.

When we come to consider the sphere of prophylaxis in these case, the criminality of the negligence which allows of such results becomes more and more apparent. It is regarded as no excuse that the law-breaker is ignorant of the existence of the transgressed law. Neither here should we condone the criminal negligence of the parent or the teacher. As things are, it is impossible to affix a penalty; but, for the future, all our efforts should be directed to eliminating the matter from the hands of careless or incompetent instructors. There should be periodical compulsory examinations of school children for the discovery of all such defects as poor eyesight and difficulty of hearing. The parents of children found to be hard of hearing should be immediately notified of the fact and strongly recommeneed to place them under the care of a competent aurist, either privately or at one of the numerous public institutions. No child need go neglected. As ineffectual treatment is often worse than no treatment, communication should be had with the family physician, recommending that the child be at least examined, if not treated, by a competent specialist.

Coincidently, it should be the duty of the local Board of Education to form a special class in the public schools for the instruction of these handicapped children, by teachers trained especially for this purpose. It is not a matter to be left to private enterprise and charitable institutional methods. The child with impaired faculties is as much entitled to public instruction as the healthy child; the fact that unusual methods and special teachers are required should be no rightful bar to its claim. Let these things come to pass, and the reproach of preventable deafness would pass from us with all its attendant expense to the body politic.—*The Laryngoscope.*

The Onslaught of Modern Surgery.

Dr. N. Senn, in a recent address at Atlanta, Ga., says:

The great onslaught of modern surgery has been upon the organs of generation, male and female. The future historians who will record the work of many gynecologists belonging to the present generation will have reason to express their surprise at what disasters the art of surgery has produced when plied in cases far in advance of a scientific foundation. Here and there we hear a feeble voice protesting against the indiscriminate surgery upon the organs of generation of the opposite sex, but the mutilating work continues in spite of such opposition and well meant advice. When we arraign the gynecologist before such a representative body, composed of representative medical men of this country, for innumerable and inexcusable transgressions of the rules which ought to govern and control the art of surgery, we do not include the scientific, conscientious workers in that department of surgery, but our remarks apply to a class of routine operators which has recently grown to an alarming dimension not only in this, but in nearly every country which has been penetrated by the dim rays of so-called bold surgery. The new generation of doctors finds no longer satisfaction in practicing their profession in some rural district. They have their eyes on large cities and have heard of enticing fees paid to specialists for insignificant operations. Why buy a horse and saddlebags when fortune awaits them in devoting themselves to a specialty, more particularly gynecology? The recent graduate or the man who has become disgusted with country practice seeks a much employed gynecologist, follows his work for a month or two and returns to his prospective field of labor a full fledged specialist. He is now ready to extirpate the uterus, remove ovaries and Fallopian tubes, sew imaginary lacerations of the cervix and perineum. Do you suppose that such an aspirant for gynecological fame ever examines a woman and finds her perfect? Is it not true that in nine out of ten cases he finds something to mend?

Lacerations of the perineum is a favorite subject of the amateur gynecologist. The extent of laceration and the symptoms caused by it are not always carefully considered in deciding upon the propriety of an operation. The performance of an operation on the perineum in five or seven minutes still serve as an attraction for the lookers-on in many private hospitals and gynecological clinics.

The frequency with which women are being castrated is one of the most flagrant transgressions of the limits of the art of surgery. It is not unusual for one operator to exhibit five or six normal ovaries as the result of half a day's work. All kinds of excuses are made for this kind of surgery. Where is this wholesale unsexing of our female population going to end? The beginning of the end has come. The army of women

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minus their essential organs of generation is beginning to raise its voice against such mutilating work. The number of women who willingly sacrifice their ovaries to restore their shattered health without securing the expected relief has increased to an alarming extent. This sad experience has made the gynecologist more desperate and bold. It is difficult to say where this rage for the removal of the female sexual organs will end, or what organ will be the next battle-ground for the aggressive gynecologist. The clitoris, the vagina, the cervix uteri, the ovaries, the Fallopian tubes, the uterus and its ligaments, have successively passed through a trying ordeal of operative furor. What the next fad will be is impossible to foretell.—*South Western Medical Record.*

Witchery Renascent.

It is refreshing to read in the daily papers the accounts of the nineteenth century triumphs of reason and intelligence. That the mind is everything, and that the body should be despised is not a new idea. It has recurred with wonderful regularity for ages and has risen to the surface in particular in the last few years, in the sect of self-styled Christian Scientists. The brilliant results of this system of healing do sometimes leak out, in spite of the well-known reticence of its votaries. They met with a notable illustration some days ago in the case of a child of five years of age, who died of pneumonia at the home of his parents on the West Side, without the attendance of any physician. A Mrs. Lyda Fitzpatrick had treated the boy, and in answer to Coroner Arbuckle's questions she admitted that, although he appeared to be suffering from some affection of the lungs, she was not a physician and therefore could not tell what the trouble was.

"We do not recognize disease," said Mrs. Fitzpatrick, "we call it evil in the body or the improper thoughts that there is a power greater than that of God. When I attended the little boy the first time and spoke the truth, he improved rapidly and was soon able to be about.

"The last time he was made ill by evil I attended him at his home, but thoughts of evil were stronger than those of good and he left (died)."

"How did you treat him?" was asked.

"By speaking the truth and counteracting the effects of evil thoughts and an unbelief in the power of God," was the reply.

"And how do you speak the truth?"

"I do not examine the physical body. I examine the mind and diagnose the thought. The Bible says: 'Speak every man the truth to his neighbor.' I do not make a pretense of teaching or curing; I speak the truth and the harmony of mind does the rest."

"Let me ask you," said the witness, "what it was that nailed Jesus to the cross?"

"I do not know," Mr. Vessey was forced to admit.

"Jesus was nailed to the cross by belief in a power stronger than that of his Father. He was put in the sepulchre, and when he had risen again that re-established the belief in the power of God."

"Did you speak the truth to the boy and place his mind in harmony with thoughts of God's goodness?"

"No. When a person is too young to judge between right and wrong we speak the truth to the parents or those who have charge of him."

"What was the truth you spoke to his parents?"

"It was the truth of the power of God. There is only one power and that is God's goodness, which dispels and destroys the evil."

"In speaking the truth to the parents, did you think that necessary because they had wrong thoughts and those of the boy were subservient to the thoughts of the parents?"

"No, it was the general unbelief of the world, and the thought of another power that I spoke against."

"In a case of fracture what would you do?"

"Very few cases of the kind have come under my notice, but a fracture would be treated in the same way as other evils of the body."

The belief expressed in the above statement, which, to do Mrs. Fitzpatrick justice, is much clearer than are the sloppy utterances of most of the so-called Christian Scientists, shows her belief to be demonolatry, pure and simple. If, as she says, Christ was nailed to the cross, not as a voluntary matter, but because the devil, with his stronger mind and stronger will, got for a time the upper hand, it is fair to suppose that she thinks disease to be due to the same cause. There have been in past times various ways of driving out the devil. The priests of the middle ages, taking the somewhat figurative language of the Scriptures literally, drove out devils by relics and the laying on of hands. The red Indian and the black African drive them out by tom-toms.

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According to Dr. Dan Millikin, some physicians who ought to know better drive them out with valerian and asafetida. Mrs. Fitzpatrick drives them out by reasoning with the patient or with his parents and friends, an exorcism which is comparatively simple but very effective, in order, although she does not say so in quite these words, to prevent him from being bewitched by their evil thoughts.

When common sense steps out the fool-killer steps in. Believers in witchcraft should have full liberty of incantations to drive out their own demons; they should not be allowed to immolate helpless infants. The Christian Science method has not the simple directness of the ordeal-bean; it is not even so sure a devil-driver as a slow fire; but it is now a little late in the century for even such mildly cabalistic arts as these, when applied to the young and the defenseless.—*Ed. Cleveland Journal of Medicine.*

The Mercurials.

Dr. S. V. Clevenger thus recapitulates an exhaustive study of mercury in the *Journal American Medical Association*, February 29:

1. Mercury acts mechanically as a deobstruent upon the glands and lesser tubular strictures, by virture of its unstable chemic properties, its volatility and great weight.

2. Its condition in the fluids and tissues is that of finely divided globules of the metal, numbering upward of one thousand million (one billion, French) to the cubic centimeter, and as a vapor of the metal. In whatsoever form it may be taken, it is quickly precipitated as mercury, and, without change, is excreted or retained in the system, mainly in the bones.

3. It cleanses the intimate visceral tissues by projecting from them materials of less weight, and in this way breaks up, removes or prevents morbid accumulations. In excess it occludes the tubular parts, and may produce any of the phenomena attending stasis of vital operation anywhere about the body, such as ulceration, congestion, paralysis, anemia, etc.

4. The liver and inferior maxillary region for anatomic and the former for physiologic reasons receive most of its primary influences.

5. It can be given in larger doses in warm weather or climates, because heat favors its elimination, systemic effects decreasing necessarily in proportion.

6. Its antiphlogistic properties are merely deobstruent and detergent.

7. Its value in syphilis is owing to its acting in the line of least resistance, breaking up any nidus the disease may form. The ability of the metal to envelop and carry micro-organisms gives it an ameboid or phagocytic value. In phagedenic ulcerative processes it would be contra-indicated, because the degeneration is too rapid to be effectually reached by mercury, which is not the case in slower forming specific ulcerative stages. Its administration in these diseases could be regulated by the rapidity of the degradative processes. Comparatively slow acting morbid centers, or those of a congested nature, could be improved by mercury where the drug would only accelerate rapid tissue destruction.

8. It is tonic, by increasing red blood globules whose formation has been prevented by glandular perversion, the metal removing the obstructions toward their formation, while in overdoses anemia is produced by occluding the vessels it, in small doses, cleansed.

9. The solubility and consequently superior penetrability of the bichloride is probably productive of the mercurial characteristic effects which seem out of proportion to the amount of metal in doses of this salt; but it is not to be denied that chemic or direct neurotic influences co-operate with the metal in the more active preparations, and thus possess features of their own.

10. Experimental evidence is opposed to probable formation of any compound in the body, and supports the belief that decomposition invariably and almost instantaneously follows its ingestion with the precipitation of mercury as minutely divided globules, from any preparation of which it forms the base.—*Southwestern Medical Record.*

DR. A. B. MILLER, of Macon City, Mo., has made nine tracheotomies in two years for diphtheria; five of these were in patients without antitoxine, but under the next best treatment known; four died—a mortality of 80 per cent.; four were apparently just as bad cases, were treated with serum, besides the tracheotomy—one died—a death rate of only 25 per cent., and the case that died in the latter group was not due to failure of antitoxine, but to strangulation from closure of the tube with discharged membrane. But, even counting it as a failure, this is an excellent recommendation of the treatment.—*Amer. Journal of Surgery and Gynæcology.*

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Original Articles.

President's Address.

Delivered at the Annual Meeting of the Brainard Medical Society, at Milwaukee, July 7th, 1896.

By H. Reineking, M. D., of Sheboygan, Wis.

The constitution of our society imposes upon its retiring President the duty of delivering an annual address. I must confess that I have been somewhat at a loss for a subject that would at once be appropriate for the occasion, and at the same time one which I might approach with some little hope of doing it justice. The past two or three months have given us a number of most able and exhaustive addresses on the subjects of general medicine and surgery, so that it would be well-nigh impossible to speak on any phase of these subjects without re-echoing what others have but recently uttered. There are, however, a few matters having special reference to the work of this society to which I will briefly call your attention.

In looking over the scientific work accomplished at our meetings during the past year, this question suggested itself: Are the papers here presented, and the scientific work here accomplished, of the highest standard that our membership is capable of attaining, or is there not some danger of our contenting ourselves with work that requires comparatively little effort? Much good work has certainly been brought forward at our meetings, but I have no doubt, but that with proper effort and a little more zeal, it can be improved upon. In this connection it occurred to me, that a society constituted as ours is, with little business to transact, no politics to take care of, with ample time for the reading and discussion of extensive papers, and with some funds at its disposal, ought to offer every inducement for the presentation at its meetings of the results of the best work accomplished by the medical profession of our great state. At the meetings of State and National Societies the programme is, as a rule, so crowded that sufficient time cannot be given to the presentation and thorough discussion of even short papers, to say nothing of reports on original investigations, a circumstance which detracts greatly from the value of such meetings. Not that I would have papers unnecessarily long, but we all know how it detracts from the value and interest of a paper when the reader must be shut down just as he reaches the best part of it, or when for want of time the discussion must be foregone. At our meetings we need enforce no such limitations, and I hope to see the day when this society shall be the gathering-place of the best scientific workers of the state; when it shall be the stage, as it were, from which their best productions are first presented to the profession at large. To further this end, I would suggest that the society consider the advisability of offering prizes for reports on original research, on such subjects and under such rules as may be decided upon.

One of the avowed objects of this society is, "the elevation of professional character:" was there ever more need of guarding and elevating the dignity of our profession than at the present day? Is not the spirit of commercialism pervading its every department to an alarming extent? Is not this spirit controlling our system of medical education, degrading medical journalism, opposing proper medical legislation, and reducing pharmacy to the level of a common trade?

Of all the factors which contribute to this condition of things, I believe the most potent one to be the want, or disregard, of strict requirements for admission in many of our medical colleges, and the consequent acceptance of persons not possessing an adequate preliminary education. This not alone tends to over-crowd the profes-

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sion, but throws into it an element entirely wanting in that breadth of knowledge and character which should mark the professional man, and devoid of all sense of professional duty and honor.

Said the venerable ex-president of the American Medical Association, in his address before the recent meeting at Atlanta: "When the older members of our profession were yet young, to be a physician was considered the greatest of honors and the holiest of callings. The doctor was a gentleman as well as a scholar, commanding the esteem of his patients and the love of the community in which he lived. This was the rule; but I fear that now it is the exception."

Has our society any duty to perform in this connection? I believe it has, and that it can exert its influence for good. Our constitution provides, that "the Censors shall examine candidates for the study of medicine, as to their educational qualifications, these qualifications to be at least a good knowledge of English and mathematics, and no member of this society shall receive a student into his or her office until such student shall present a certificate from the Board of Censors of this society, or of the Wisconsin State Medical Society, stating that he or she has the requisite preliminary education." I could relate one instance in the history of this society where this rule worked admirably; and it is my belief, that if properly revised by materially raising its requirements, and adopted and followed out by the members of this and other medical societies of the state, it will be productive of much good, and eventually lead to the adoption and carrying out, by all of our medical colleges, of stringent regulations of admission. Then, and not till then, can we also hope to see American diplomas and American achievements fully recognized in European and other foreign countries.

I will not enter into detail concerning the tendency to degradation of a large proportion of the medical journalism of this country. It is both astonishing and mortifying to notice how men, well-known, and of high standing in the profession, will lend their influence and ability to the promotion of so-called medical journals that are nothing more than advertising media, subsidized or published by the manufacturer of some proprietary article, and a disgrace to legitimate journalism. A medical journal worthy of the science which it claims to serve, can have no use for advertising matter interspersed where it is sure to offend the eye of the adherent of clean and high-grade journalism.

That proper medical legislation in this state has thus far been effectually opposed by money power and a mercenary press, no one will deny. It is this demonstration of the influence and power of disreputable interests that is to be deplored quite as much as the failure of the attempt to pass a desirable law. If success is ever to be attained in this connection, it can only be through the united effort of all loyal members of the profession throughout the state.

The evidences of the decline of pharmacy to the level of a mere trade are so apparent, that it is not necessary to point them out. Let any one who doubts it examine our pharmaceutical journals or the programmes of the annual meetings of the State Pharmaceutical Association, and he will soon become convinced. That physicians, by their too great readiness to endorse new and untried remedies, have encouraged this tendency to commercialism in pharmacy, there can be no doubt. It will require the united influence of both professions to rescue pharmacy from a rapid decline. Counter-prescribing and unauthorized re-filling of prescriptions both so prevalent to-day, are practices as derogatory to the standing of the pharmacist as they are unjust to the physician, and should be discountenanced by both. It behooves both to give more study and attention to tried and established preparations, and not be led so much by the manufacturer of untried novelties.

These few remarks will suffice to point out some of the dangers towards which our profession is drifting; they are offered, not from any desire to criticise, but from a deep sense of the reality of these dangers, and for the purpose of reviving and arousing that lofty sentiment of professional integrity and honor which alone can save us from an inglorious decline.

The past year has witnessed the departure from our ranks of one of the noblest and most beloved of our members, Dr. J. G. Meacham, of Racine. The memory of his courteous and noble bearing, as well as of many other manifestations which he

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gave of a scholarly and pure mind, will ever be cherished by those who enjoyed the privilege of attending these meetings with him.

May we emulate his example, and may there never be wanting in the ranks of our society such types of true manhood and high professional character, as we possessed in Dr. Meacham and the never-to-be-forgotten Ira Manley.

The Treatment of Puerperal Fever.

BY DR. CARL FELDT, WATERTOWN, WIS.

Read before Brainard Medical Society, July 7, at Milwaukee.

The subject assigned to me requires, first, a clear understanding as to what is meant by puerperal fever. The term was applied to that dread disease which used to be the chief terror of lying-in hospitals in pre-antiseptic days, and which is now known to be due to the action of microbes, the streptococci, in the human system.

Our text-books on obstetrics classify the subject according to the organs of reproduction which may be the seat of inflammation; hence we find it treated under the following headings: Puerperal metritis, puerperal vaginitis, puerperal peritonitis, puerperal cellulitis, and puerperal phlebitis. As far as the treatment of these conditions is concerned, it is important to bear in mind only two varieties, and it is often difficult to draw a line between them, as the one may be only the first stage of the other. The first form is sapremia, to produce which two factors must be present—dead tissue, and infection of this dead tissue with putrefactive bacteria. A sufficient time must elapse to enable the putrefactive bacteria to produce ptomaines in such toxic quantities as to make a decided impression upon the organism. The dead tissue may be retained products of parturition in the uterus or vagina, or normal tissue bruised, and thus rendered necrotic.

The second form is a general septicemia usually occurring from the third to the fifth day after delivery. The intoxication in this form, according to Senn, "is not only caused by ptomaines which are produced at the primary seat of infection, but ptomaines are also produced in the blood by the microbes which it contains." This is the true childbed fever, more dreaded by the obstetrician than any other complication of labor.

In sapremia our treatment may be chiefly local. In septicemia local treatment is often worse than useless; it may become positively harmful if it consists of the use of the curette in all but the most skillful hands.

The removal of dead tissue from the uterus and vagina by the hands or dull curette, followed by free antiseptic irrigation, will sometimes speedily cause all symptoms of sapremia to disappear, unless an overwhelming toxic dose of ptomaines have been absorbed, while in septicemia the same measures would only aggravate the disease, there being a general infection, not a local inflammation. Here we must direct our attention to the fever, the pulse and the general asthenia; in other words, we must give nature and natural forces a chance by stimulation and nourishment. Alcoholic stimulants must be given in sufficient doses to sustain the heart. Camphor in 2-grain doses every two hours is very useful for the same purpose, and quinine, while it has fallen into disuse in most forms of fever except malaria, is still looked upon by the best authorities as of the very greatest value in puerperal septicemia. It may be given in oft-repeated small doses or in doses of from ten to fifteen grains at longer intervals. It should not be given with a view of reducing very high temperature, as we have other and better means at our command, the most reliable of which is cold water; this may be used as the cold, wet pack enveloping the patient's whole body, or the patient may be placed in the cold bath as in typhoid fever. If the wet pack is used, cold water must be poured continuously over the wet sheets. The newer antipyretics, acetanilid and antipyrine, when carefully used in small doses, have their place in reducing temperature and exerting a calming effect on the nervous system. If any local measures are to be employed—and it seems to me the only occasion to apply them in the first stages of the disease, before the poison has gone beyond the uterus—irrigation should be given the preference over the curette. This, in order to be effective, must be very thorough and persistent. The injecting fluid may consist of carbolic acid, two drams to a pint of tepid water, or of corrosive sublimate 1:4000; two or three pints of either solution should be used two or three times daily. Corrosive sublimate irrigation should always be fol-

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lowed by copious irrigation with sterilized water, to which chloride of sodium or boric acid are added; and it is to be borne in mind that when kidney disease exists corrosive sublimate must not be used. Whatever instrument is used for the injections, it must consist either of a double canula, or, if a single tube is used, there must be ample room for the fluid to return alongside the tube. Injections should be given by the physician himself, and care must be taken that no air enters with the fluid. If by the presence of tenderness and the discharge of offensive fluid it becomes evident that the uterus itself is implicated, we should try to ascertain whether it is empty or not, and if not, the contents are best removed by passing one or more fingers or the whole hand into the uterine cavity. The operation should be done under an anæsthetic, and of course with the most rigid asepsis. The manipulations should be as gentle as possible, avoiding even the slightest injury to the endometrium. I am firmly convinced that by undue violence, creating a better soil for infection and the entrance of the microbes, a mild case may be converted into a hopeless one; and here it is where I am afraid of the curette. It seems to me that only the most expert hand can measure and regulate the effects of that instrument within the uterus. Knowing that the curette is useless in advanced stages of puerperal fever, and that its use may be attended by great harm in the early stages, while it is not often required in mild cases, it ought to be resorted to only in exceptional instances, and never by anyone but the most skillful manipulator. Irrigation will in most cases suffice to remove whatever can be removed without injuring living tissues. Vaginal injections are harmless, and may be practiced in all cases. In many instances the uterus does not contain septic material, and prompt amelioration of symptoms follow the vaginal douching. Free catharsis with salines is very useful in the earlier stages of the disease by relieving the congestion of the pelvic organs and the peritoneum. For the relief of pain hypodermic administration of morphine is indicated. Pleurisy, pneumonia, and the other complications must receive the treatment appropriate for those diseases.

In the severer forms of puerperal septicemia we are almost powerless as far as therapeutics are concerned. In many cases nothing short of laparotomy will save the patient, and this must be performed early if it is to be of any avail.

The only safety lies in preventing the disease, but this is outside of the scope of this paper.

A Case in Obstetrical Practice.

BY DR. MALONE, MILWAUKEE.

Read before the Brainard Medical Society.

I was called at midnight, one of the coldest nights of the past winter, to see Mrs. O., who had been in labor some hours, under the care of a midwife. The woman in charge sent word for me to bring instruments along, as she had done everything else possible, but could not get the child. Mrs. O. was in the most terrible pain. She had, apparently, no labor pains, but a constant, agonizing distress in the abdomen. She was very pale, covered with a cold, clammy perspiration, and almost pulseless. The midwife had been with her about twenty-four hours, and reported her condition about the same when she first saw her. Examination revealed a very tense abdomen and a very slight dilatation of the os, with no discharge. It required repeated hypo. of morphia to make her at all comfortable. As soon as daylight came I asked the husband to call another physician to see what might be done. Dr. Wallbridge, of this city, came promptly, and advised waiting, giving as a tonic small doses of strychnia. He thought that labor pains would come on before many hours, and that she would probably be able to deliver herself. In this he was correct.

Her condition during the day was better. She did not suffer as much pain, took nourishment, and rallied quite a little. About 5 o'clock P. M. true labor pains commenced, and shortly before midnight she was delivered of a dead child. The placenta came all right, and was followed by a large amount of blood clots, more than enough to fill a large sized wash-basin. This explained the early distress and anæmia of the mother, as well as the death of the child. The patient rallied nicely. Pulse was again discernible, and everything seemed to indicate that she would recover.

As she had passed no urine, at the first visit I

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ordered a cathartic, and that she be given plenty of water to drink. At this time the patient complained of great thirst, but felt otherwise quite well. Stomach acted nicely, and she was taking some nourishment. At the next visit she was given diuretics, with hot water applications over the kidneys. The bowels and skin acted freely, but the kidneys still refused to act. Dr. Richards saw the case with me on the third day. Mrs. O. lived six days after the birth of the child without the kidneys secreting one drop of urine. She died in a comatose condition.

Here we had a very free hemorrhage into the uterine cavity with no external show. The blood remained outside the membranes, as the liquor amini was not blood stained. There was a more or less complete cessation of the bleeding for some hours before the completion of labor. Then the suppression of urine. What was the cause?

Up to the time that the severe pain commenced the woman had felt well; had done her household work as usual, and had noticed nothing different as to the amount of urine voided. Whether the urine contained albumen or not I had no means of determining. Passed a catheter repeatedly, but could get no urine.

Concealed hemorrhage is not a frequent complication of labor. In a practice of nearly twenty years this was my first case. It is always a very serious accident, causing almost invariably the death of the child, and, in fully one-half of the reported cases, the death of both mother and child.

Infant Feeding.

BY A. W. KRATZSCH, CASCADE, WIS.

Read before Brainard Medical Society, July 7, 1896.

Among the numerous causes of infantile mortality we find prominently mentioned improper feeding. This does not necessarily imply that the infant be deprived of its natural food, by nursing its mother, during any period of its course of lactation. An infant may receive good wholesome milk from a perfectly healthy mother and yet be improperly fed. When, after four to six hours after birth the mother has sufficiently rested from the hardships and fatigue of labor her infant should be applied to the breast. As a rule the breast contains a small amount of milk, enough to satisfy the child at this time. The full amount generally makes its appearance on the third day after birth; but its appearance is hastened by repeated nursing on the first and second day.

When the infant seemingly suffers from hunger during this period of scanty milk secretion a little cow's milk diluted with twice its bulk of hot water may be given. I find that a few drops of good brandy to the teaspoonful of slightly sweetened water answers the purpose well, especially if the baby is very noisy. The stomach of the new-born child holds but little and it is therefore necessary to feed it very frequently during the first month of life. It should nurse every one and one-half to two hours during the day time and at slightly longer intervals at night. As the child grows older the interval between feeding should be lengthened so that at the age of six months nursing will take place about four hourly, with the addition of small quantities of artificial food given several times a day. Mothers are very prone to nurse their infants to allay fretfulness or uneasiness and thus violate the rules of regularity about feeding. This habit is a pernicious one, frequently giving rise to indigestion and diarrhœa, which increase the fretfulness by colicky pains caused by gases from fermented food.

The child should rather be quieted by carrying it about than by constant nursing. There is no fixed age at which children should be weaned, and some mothers are known to suckle their babies until they are three years of age and older.

When the canine teeth have appeared the child is able to properly masticate soft food and is in proper shape to be weaned. This places it usually at the age of from eleven to fourteen months. It is policy to defer weaning until after the summer months, especially in cities, because of the predisposition to attacks of diarrhœa during this period of the year.

Weaning should not be done abruptly so as not to force a sudden change of diet upon the child. It should be taught to be fed with a spoon from time to time during the daytime and nurse less so that the transition from natural to artificial feeding does not impress the child unfavorably.

What I have said so far refers entirely to infants who are not deprived of their natural food obtained in the natural way.

It so frequently happens, however, that a child

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is deprived of its mother at or near its birth, or that through a variety of causes, the mother is unable to suckle her infant early after its birth and recourse must be had to artificial feeding.

The wet-nurse affords the most typical substitute for the mother in the feeding of an infant. Since she, in the large majority of instances, cannot be obtained some other food simulating as nearly as possible mother's milk is obviously required.

We read announcements in every journal and newspaper and we see on the shelves of every apothecary shop numerous artificially produced articles in both liquid and solid form claimed to be "just the food the baby needs to thrive and do as well on as if it nursed its mother."

In my hands none of these preparations proved satisfactory as an ordinary food except condensed milk; and among the numerous brands of this form of milk none seemed to agree with infants under my care except the Anglo-Swiss, marked "prepared in Switzerland." The only kind of milk most readily obtained and which resembles as closely as possible human milk is that of the cow. This differs from human milk in the percentage of the different ingredients it contains, being richer in butter, caseine and salts and containing less sugar and water. Milk from old cows is less nutritious than that from younger animals and is also more liable to be diseased. It should be obtained from a herd of healthy young cows in preference to that from a single cow because this is more apt to be uniform in quality. The dairy should be regularly inspected by a competent veterinarian, and no milk should be allowed to enter the market from premises where contagious diseases exist. Whether cow's milk had better be boiled or given in a fresh state to infants has advocates for and against. It is advisable, however, to boil or sterilize all food and drink given artificially fed infants during at least the hot season of the year. The milk fed an infant should be alkaline in reaction; and, while milk from grass fed cows is alkaline, that from cows fed in barns is acid and must be made alkaline by the addition of limewater or soda. A teaspoonful of a solution of one dram of sodium carbonate to six ounces of water given with each feeding is a simple mode of producing this effect. It has been my experience that milk from cows fed on green corn during the fall of the year almost invariably causes bowel disturbances in bottle-fed infants. A uniform temperature of the milk at about 99° F. is most agreeable to the child's stomach. If cows milk is not well liked at the beginning the addition of a little cane sugar may remove this dislike as well as the constipation that often follows the feeding of cow's milk to infants. The admixture of a few grains of salt to each feeding may also act as a bowel regulator where there is a tendency to constipation.

A mixture of one part of milk to two of water should be given infants under one month of age, and the amount of water should be gradually reduced so that at six months it will receive the milk pure. The regulation nursing bottle sold at the shops should absolutely be discarded in favor of an ordinary three, four, or six ounce vial, according to the age of the child, with an ordinary rubber nipple.

Mothers and nurses as a rule are not scrupulous enough in cleansing the complicated arrangement of the regular nursing bottle, and in this way feed their babies unwholesome milk. I usually instruct my families to have several rubber nipples on hand so as to have at least one lying in a borax or sodium solution while the other is being used. They are easily cleansed, and therefore furnish no source for contamination. It frequently happens, even in the country, that babies cannot tolerate cow's milk. That, if given sufficiently diluted to be easily digested, they wilt away, become emaciated, and display all evidences of mal-assimilation. Or, on the other hand, if given more concentrated, it will form large curds and cause vomiting, diarrhœa or obstinate constipation, also attended by evidences of non-assimilation. Such children as a rule do well on condensed milk. I invariably prescribe what is known as Anglo-Swiss condensed milk, marked on each can "Prepared in Switzerland," and I seldom have trouble. Whenever in my practice any other brand of condensed milk was procured, either by mistake or because the brand ordered could not be obtained, the little ones invariably either failed to improve or grew worse, while a return to the favorite brand would soon restore a healthy digestion. Children brought

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up on this form of condensed milk have all the appearance of perfect health, and the prejudice so often heard against this form of infant food must arise through the employment of inferior brands.

No matter what the food of an infant may be, if at any time it shows evidences of indigestion, or becomes affected with one of the different forms of diarrhœal troubles, it is always best to introduce a change of food. This alone often corrects the disturbance. Thus it may become necessary for a child nursing its mother to receive either cow's milk properly prepared, condensed milk, or possibly one of the other substitutes of human milk. The mother may begin to menstruate during the early months of lactation or she may become pregnant soon after the birth of her child. In the former instance she may suffer such systematic disturbances as to change her lacteal secretion sufficiently to injure her child. The little one may have severe attacks of indigestion, and even go into convulsions. Here a substitute must be employed during the days of menstruation, and a day or so thereafter a return to the breast may be made. During this suspension of nursing by the child the breast pump must be regularly used to keep up the secretion of milk. In the case of early pregnancy it will be necessary to wean the child entirely, both on account of the deranged condition of the milk and also on account of the drain it produces upon the mother.

Tuberculosis in the mother, or an inability to suckle her child on account of a wasting and debilitating effect it produces on her, are also causes for weaning. Milk from a healthy woman with sound breasts is practically sterile, while a fissured nipple or an inflamed breast may be the cause of severe digestive disturbances in the child. If at all possible, milk should constitute the chief article of food during the first year of life, and one of the chief foods during the entire period of infancy. At the age of six months small quantities of farinaceous food may be given with the milk diet. Later the softer kinds of solid food, such as oat-meal gruel or rice, well cooked, and small quantities of beef broth may be added, so that at the age of twelve months the food may be made of greater consistence. Crackers and stale bread may now be boiled in water or beef broths and fed with a spoon. Small quantities of baked potato with butter and salt, and perhaps a little soft egg, also agree well at this time. Vegetables should not be given during the first year of life and sparingly during the second. The child now has all of its incisors and some or all of its molars, and is prepared to chew soft meats in small quantities. To this may gradually be added during the second year puddings of rice, corn meal, sago, etc. Milk, however, should be given with regularity at meals, and draughts of cool water during intervals between meals to allay thirst. At the age of two and one-half years all the teeth have made their appearance, and the child may now have access to the general table. However, on account of the entire absence of will power, the child is placed at the mercy of its stomach, and the quantity and kind of food taken by it should be regulated by the parents or nurse.

Section on Ophthalmology, College of Physicians of Philadelphia.

A stated meeting of the Section on Ophthalmology was held in the lower hall of the College of Physicians on the 17th of March, 1896, Dr. Wm. F. Norris, chairman, presiding. Present, Drs. Friebis, Hansell, Harlan, Norris, Oliver, Randall, de Schweinitz, Schaffner and Zimmerman, fellows of the college; and Beaudoux, Bromley, Capp, Green, Krauss, Leopold, Lovelace, McGuigan, Mellor, Moorhead, Murdock, Palmer, Posey, Rogers, Schwenk, Shoemacher, Sulzer, Sweet, Tait, Taylor, Veasey and Ziegler as guests.

Dr. George C. Harlan exhibited a case of traumatic enophthalmus in a five-year-old boy who five months previously was wounded by the horn of a bull. The right cheek and temple and the lower eyelid were lacerated, and the inferior margin of the orbit was chipped. There was also complete ptosis. At the time of the examination the tendo oculi was found to have been torn away and the lower lid was dragged downward and outward by the action of the orbicularis and the contraction of the cicatrix.

The surgeon who attended the patient at the time of the accident reported that there was considerable orbital cellulitis with abundant discharge of pus from between the lids, but there never was any exophthalmus. He thought that the cellu-

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litis was confined to the lower part of the orbit. At present the eyeball is retracted and has the appearance of being very much smaller than its fellow. The cornea is situated five millimeters behind the plane of that of the other eye. There is scarcely more ptosis than would result from the depression and loss of support of the lid. When the patient looks directly forward, the palpebral fissure is five or six millimeters wide. He insists that he sees well with the eye. Though the movements of the eyeball are much restricted, no diplopia can be detected. There is complete inability to look upward beyond the horizontal line either directly or to the right or left. Horizontal movements are normal and the downward excursion is much exaggerated. Dr. George Friebis spoke of his case of traumatic enophthalmus seen nine years ago, in which there was sufficient recovery to manifest but little difference between the two eyes; there being nothing left except a slight doubling of objects when looked at below the horizontal line. In his case there was no incarceration of the extra ocular muscles.

Dr. Francis M. Perkins showed a case of monocular retinal detachment with high myopia.

Dr. Charles A. Oliver gave the clinical history of a case of ciliary staphyloma and excavation of the optic disc following traumatic cataract in a four-year-old boy. The clinical picture of this case of complicated secondary glaucoma was so complete, having been studied from almost what may be termed its very incipiency to the final result, and the varying symptoms evolved from time to time were so at variance with what one would expect in such cases, that it offered itself as a most interesting and a most instructive study of this type of disease.

Unlike similar cases of sudden obstruction to proper lymph-stream circulation, there remained from the very first, as shown by the fields of vision, and, as afterward proven ophthalmoscopically, an element that may possibly complicate many more cases of the traumatic type of this disease than is at present imagined, and that is retinal detachment. Again, the condition of the vitreous and its peculiarity of opacities, taken in connection with the history of the case, would go far to show that there was a hemorrhage into that humor which most probably might have been recognized ophthalmoscopically had the patient been seen a week earlier. These, with a few though certain evidences of a low grade iridocyclitis, made the case still more atypical.

On the other hand, the progressive diminution of the field of vision; the gradual distension of the globe, and the localized tissue-bulgings in the upper ciliary regions; the deep and characteristic cupping of the nerve-head; the reapproximation of the remaining areas of retinal detachment; and the late fixedly increased intraocular tension, all show the certainty of degeneration even in a young and yielding eyeball, when such tissues are subjected to a persisting increased intraocular pressure.

As answer to the vexed question of therapy in such cases, the author will leave this for another and more extended communication, reserving the present brief, though detailed account, of the clinical history as an interesting and useful exposition of a groupings of symptoms which have been carefully studied, and can be thus employed to illustrate the results of two conflicting contemporaneous conditions produced by traumatism; localized inflammatory reaction and obstruction of lymph-stream circulation.

Dr. George E. de Schweinitz presented a further note on an unusual form of macular lesion following iritis. The patient, a fifty-year-old woman, recovered with a nearly normal sharpness of vision, but with some vitreous opacities from a violent attack of serous iritis. The eye remained comfortable for eight months, when she appeared with a positive scotoma and the ability to see to count fingers only when situated in the periphery of the visual field. In addition to the positive scotoma which the patient described as appearing "like a dinner plate with a green edge," there was a small absolute scotoma about the horizontal level. Ophthalmoscopic examination revealed an oval reddish area, giving the impression of a disintegrating hemorrhage and containing in the center several white dots situated exactly in the center of the macular region. Dr. de Schweinitz referred to the unusually distinct macular ring, which seemed to indicate that there must be some thickening in the periphery of the hemorrhagic area.

Dr. Oliver exhibited a water-color sketch of a case of unusual submacular hemorrhage forming a part of some very curious lymph extravasations in the retina without any vitreous disturbances, found in the left eye of a healthy sixty-five-year-old woman upon whom he had successfully removed a black cataract by simple extraction some two months previously, the operation being perfectly smooth and the appearance of the interior portion of the eye normal in every respect. The sketch

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was made for him by Miss Margaretta Washington, of this city.

Dr. de Schweinitz described the clinical history of a patient suffering from convergent strabismus of the left eye and a very high myopia 16 D. Ophthalmoscopically, the following lesions were present: A small posterior polar cataract, numerous fine vitreous opacities, and a horizontally oval optic disc, of a greenish gray color. The nerve head was imbedded in the center of a huge mass of opaque fibers, which followed the course of the principal vessels almost to the periphery of the eye-ground, and in all directions, but less markedly downward and to the nasal side. A small patch in the macular region was not covered by the opaque fibers, but was disturbed by superficial choroidal changes. There was almost complete loss of nasal field and of the entire center of the visual field, with exception of a small area to the nasal side of fixation, about ten degrees in diameter, within which the white test object was dimly seen. Colors were correctly appreciated when held in the temporal field. The case was illustrated by a water-color drawing made by Miss Washington.

In the discussion, Dr. B. Alexander Randall showed a card-specimen of a case of retained nerve-sheaths in a case that had been sent to him for supposed intracranial disturbances. In this case there was an isolated patch situated in the macular region. Dr. Oliver exhibited the drawing of a case in which the medullation began at the edge of the disc and divided into two comet-like processes extending along the lines of the larger retinal vessels, this case having been seen through the courtesy of Drs. Goodman and Ziegler at the Wills Eye Hospital. He also spoke of a drawing that was made for him by Dr. Randall, which was one of the most extensive of annular types that he had ever seen. The case occurred in a nine-year-old highly myopic boy who never had had any subjective symptoms of the condition.

Dr. James Thorington, by invitation, exhibited an asbestos cover-chimney with disc attachment for ophthalmoscopic purposes. The original form with the disc attachment he had made two years previously. The present arrangement showed that five changes could be made in the disc. (1) The one centimeter opening fulfilled all the purposes of the original chimney. (2) The two centimeter opening permitted greater freedom of movement on the part of the observer, without moving the light. (3) The three centimeter opening may be used as a source of light for the concave skiascope, or for the ophthalmoscope, otoscope, etc. (4) A round section of cobalt blue glass for the chromatic aberration test of ametropia had been added as likewise: (5) The perforated disc, with perforations and spaces each 1.45 millimeter to test for astigmatism at one meter's distance. The author stated that he had a new form of contrivance in the course of preparation, which will have a simple shutter with different changes in it, to work up and down in front of the opening in the asbestos chimney by means of cog-wheels. He will also employ a horizontal slip one-eighth of an inch wide to exercise the oblique muscles as suggested to him by Dr. Savage, of Nashville, Tenn. Dr. Charles Schaffner strongly recommended the asbestos form of chimney, as it radiated but little or no heat, and was always sufficiently cool to handle without burning the fingers. It had been his intention to present one that he had been using for some time, but as he considered that the present form and the one recently brought forward by Dr. M. W. Zimmerman were much better, he had refrained from so doing.

Dr. Thorington showed a new form of perimetric lenses which received its name from the fact that their optical center corresponds to the points of fixation in the fields of vision. The reason given for the recommendation of the lens were that it gives to the eye that form of lens which is consistent with a normal form of the visual field; it removes the edge of the lens to a sufficient distance that the edge cannot be seen to any great degree while the eye is fixed straight ahead; and that bifocal segments can be made much larger. He stated that the increase in weight need rarely exceed the ordinary form of twenty-five to thirty grains; the large size does not attract much attention; and the cost will remain the same as in the ordinary styles used. Upon account of necessary great weight and thickness, he believed that this form of lens cannot be used for cases of aphakia and high myopia, but showed that as this class of cases constitutes much less than one-half of all refraction cases (37 per cent.), the lens will be accepted in the majority of instances.

Dr. Oliver exhibited and demonstrated a series of microscopic specimens showing the various forms of eyes seen in fish, reptiles, birds, quadrupeds and man. He showed the marked differences in the conditions of the dioptric media;

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the varying shapes of the eye-ball; the relative positions of the eye in the head of the animal; the adaptations for near and for far-focussing; the arrangements for increase of the interior illumination; the positions and peculiarities of the nerve-structure; and the relationship existing intracranially between the two organs, in the aquatic, the terrestrial, and the aerial forms of animal life.

The section then went into executive session. Upon motion, adjourned.

CHARLES A. OLIVER,
Clerk of Section.

Society Items.

The Brainard Society

Meets on October 6th at the Passavant Hospital. The last meeting was a very interesting one both from point of attendance and from the papers read which are published in this issue. Now that the cool weather is coming, medical society men will take more interest in their work and the result through the winter months will be a better class of papers and more earnest discussion. The idea advocated by Dr. Reineking in his address, to offer prizes for original work is certainly a good one, and might be carried out by any society with surplus funds to advantage to itself and the benefit of the profession at large. The objections standing in the way of this are that the man in active work has little time for original experiments and lacks in a large measure the knowledge of manipulative details so necessary for successful experimental work. Still we have in the profession many men who in addition to carrying on a large practice, find time and possess the necessary skill. Such men if supplied with the necessary incentive are capable of doing much good work. As for the most of us, we have to be content with appropriating the knowledge for which others have delved, happy if we can only learn well how to apply it with advantage to our patients.

As practical men we are apt to forget the debt we owe to the theorist and laboratory worker; and are also a little inclined to make sport of his achievements until proven by bed-side experience.

When we remember that the foundation of our present medical structure was laid in the laboratories; that all we definitely know of anatomy, physiology, pathology, bacteriology, and much of therapeutics was given us by the student, we have every reason to be grateful to these workers and we should encourage them by every possible means.

The American Association of Obstetricians and Gynæcologists.

The Ninth Annual Meeting of the American Association of Obstetricians and Gynæcologists, will be held at Richmond, Virginia, with headquarters at the Jefferson Hotel, one of the finest hostelries in the country, on September 22, 23 and 24. A glance over the programme, which embraces fifty papers, is sufficient to indicate that the meeting is to be one of great interest and of decided practical importance, as many of the papers are on subjects which intimately concern the general practitioner. Among the list we notice the name of one of our home physicians, Dr. E. F. Fish, who contributes a paper on, "Shall the Uterus be Left in Situ in Excision of the Adnexa?" As this is a subject on which there is a disagreement of opinion, there is abundant room for discussion. The social features have not as yet been arranged, aside from the annual dinner. Receptions and drives are provided, and as Virginians have a long established reputation for hospitality to maintain, we are sure the guests will in no wise suffer.

The Mississippi Valley Medical Association.

This important society convenes at St. Paul, September 15th to 18th, and promises to be fully up to, if not ahead, of all former meetings. The sessions of the society will be held in the capitol building. The papers are all by well-known men of the West, with several from the East. A special feature is a trip to the Yellowstone Park after the close of the session, in a special train provided for the members and their friends. Five days of coaching will be spent in the park itself, giving an opportunity to view the wonders of this beautiful region and, strangest of all, the entire cost of the trip from St. Paul and return is to be but seventy-eight dollars, including the best ac-

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commodations to be had. This is a rare opportunity to make a grand trip in splendid company, and dispite the hard times will no doubt be eagerly siezed upon.

The Northwestern Medical Association

Meets in Medford next month, and a good attendance and general good time is anticipated. The second Tuesday which falls on the 13th is the regular meeting time, but at the last meeting in order to accommodate members who wished to attend the Mississippi Valley Association, which was to convene on the twentieth, the time was set for Monday the nineteenth. Now that the time of the St. Paul meeting is changed there may be some doubt as to whether the Medford meeting will be held on the before mentioned date. Dr. Zeit, the secretary, will no doubt set every one right.

Communication.

We are in receipt of a letter, here subjoined, which purports to be a copy of one sent to the Milwaukee University from Dr. Carl Wagner, who is mentioned with Dr. Schoene in the formal complaint presented by Attorney General Mylrea as an officer of the Milwaukee University, a diploma mill which ground quite a grist in our city. The doctor's name has evidently been used by the scoundrels operating the institution without his knowledge. No doubt they took the same liberties with Dr. Schoene's name

To the Milwaukee University :

GENTLEMEN:—Having learned that you used my name in your announcements as a director of the Milwaukee University, I ask you to withdraw my name from the list of your members immediately. I have never given you my consent to what you have done. I demand that you take all means within your power to see that my name in the future will be in no way connected with your enterprise, and also demand that all legitimate means be employed to recall the announcements already issued containing my name. If the above request is not complied with, I will instruct my attorney to proceed against your institution.

Respectfully,

DR. CARL WAGNER.

Aug. 20, 1896.

Reprints.

The "Antitubercle Serum" in treatment of Consumption. By Dr. J. A. Hodges, Richmond, Va. (Virginia Medical Semi-Monthly.)

The experience of several physicians with Sero-Therapy in Tuberculosis. By Paul Paquin, M. D., St. Louis, Mo. (Journal of American Medical Association.)

Degeneration in Criminals as shown by the Bertillon System of Measurement and Photographs. By W.A. McCoon, M.D., Kankakee, Ill.

A New Form of Antiseptic Treatment of Wounds. By Dr. C. I. Schliech, of Berlin.

Abscess of the Lung, with report of seven cases. By E. Fletcher Ingals, M. D., Chicago. From the Journal of the American Medical Association.

Some Conclusions Drawn from Experiences in Pelvic Surgery. By A. V. S. Brokaw, M. D., St. Louis, Mo. From Medical Mirror.

Conditions for American Commercial and Financial Supremacy. By Paul Seroy-Beaulieus, Paris, France. From "The Forum."

DR. ROBINSON is investigating the development of the peritoneum from the earliest embryonic life up to a four months' fœtus. He would be especially obliged if physicians would send him human embryos and fœtuses of the first four months of uterine life, but especially of the first two months. The fœtus should be placed in a strong bottle of alcohol and sent to his address, 34 Washington St., Chicago. He will bear the necessary transportation charge and give due credit to the sender by announcing his name where the material is used.

WE notice in the advertisement of those enterprizing caterers to the profession, Messrs. Spiegel, & Co., Prof. Paul Paquin's Anti-Tubercle Serum. Prof. Paquin seems to be thoroughly in earnest in his work, and has published some remarkable results. Anyone desiring to make a trial of this remedy need not now send to St. Louis, but can obtain it direct from our home firm.

THE 8th annual meeting of the Tri-State Medical Society of Alabama, Georgia and Tennessee will be held in Chattanooga, October 13, 14 and 15, 1896.

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MILWAUKEE MEDICAL JOURNAL.

A Monthly Journal of Medicine and Surgery.

Contributions are respectfully solicited from members of the profession, in good standing, in all parts of the world. All original articles when written exclusively for the JOURNAL will, upon publication, be paid for in reprints or in extra copies of the JOURNAL. Authors desiring their articles illustrated must furnish drawings or photographs from which the illustrations will be made without further cost to the contributor. Address all matters for publication or review to the editors,

W. H. EARLES, M. D.
W. H. NEILSON, M. D.

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City Water Supply.

The health of the city is unusually good. Typhoid fever cases are very few, and those nearly all imported ones. If this condition remains for long, the student or practitioner who desires to see typhoid will have to go to some of the country places where the water supply is vitiated.

Milwaukee at last has a water supply of which she can well be proud. Pure, sparkling, cold, devoid of inorganic impurities, it is supplied to the homes of all at a nominal cost. To secure this, however, there was an enormous expenditure of labor and money and the sacrifice of several lives. Yet the lives saved and the comfort and health given far outweigh the sacrifice.

* * *

So accustomed are we to the unrestricted use of pure, palatable water that we do not realize what we are enjoying until forced to draw comparisons while visiting older and wealthier cities, perhaps, or those which have a river as a base of supplies.

* * *

Notwithstanding the purity and healthfulness of our water supply and in face of the fewness of cases of typhoid fever, our worthy Health Commissioner startles the good citizens who were felicitating themselves on the general healthfulness of their surroundings by telling them that the city water was absolutely unfit for drinking purposes unless boiled for thirty minutes! It was *full* of organic matter, said he, and typhoid germs were lurking therein, ready to fasten themselves in the viscera of the unsuspecting victim. But our people had been frightened before, and straightway, after recovering their breaths, samples of the water were sent by responsible parties to Professor Mitchell, state chemist and professor of chemistry in Milwaukee Medical College, Professor Vaughn, of Ann Arbor, and Professor Smith, of Beloit, each and all of whom ascertained, both by chemic and biologic tests, that the water was most excellent and remarkably free from organic impurities or pathogenic germs. But, then, great men differ; and as a safeguard to protect the innocent who attend the schools, the Health Commissioner presented to the notice of the School Commissioners a patent filter for use in all the public schools which was warranted germ proof, obviating the necessity of the thirty minutes' boiling. The Commissioners failed to see the matter in the light presented, and our children are still drinking water unpercolated through patent filters. But, then, some people stand in their own light.

* * *

If you want to see typhoid fever, a visit to St. Mary's Hospital, in connection with which is the United States Marine Hospital, will satisfy you. There, under the efficient care of Dr. Allen and the good Sisters, all stages of typhoid are to be seen—all sailors and all brought to Milwaukee sick. From these is the record of Milwaukee cases swelled. We are just in receipt of the monthly report of the Health Department for the month of August, which fully bears us out in regard to the prevalence of typhoid fever. Twelve cases were reported during the month, and if the marine cases be subtracted there will be very few left to be divided among the wards of the city.

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Twelve cases in a city of 260,000 inhabitants is not a very large percentage, not a very alarming state of affairs; and while we are with all good citizens in any effort to maintain a high standard of health and cleanliness, we must denounce as harmful and mischievous, alarms which have no foundation in fact, and would respectfully urge upon the department the necessity of having such foundation, for then only can it expect hearty co-operation on the part of intelligent citizens.

Opening Exercises of the Milwaukee Medical College and School of Dentistry.

Milwaukee Medical College and School of Dentistry held its formal opening Monday evening, the 14th inst. As usual at the opening exercises of this institution, there was a large and appreciative audience. The exercises were less formal than heretofore, and consisted in addresses by Drs. W. B. Hill and B. G. Maercklein, supplemented by informal talks by Drs. Oviatt and Earles, with a few introductory remarks by Dr. Neilson. Excellent music was furnished by Messrs. Tanner, Hirtz, Buelow and Widule, members of the college. Altogether a very pleasant evening was enjoyed, and the members of the faculties and classes will feel all the better for this coming together. Notwithstanding the hard times so prevalent throughout the country, the attendance bids fair to exceed that of last year, and the school is to be felicitated on the high educational standing displayed by the matriculates. In the intelligence of its graduates must every school rely for permanent success. This being taken for granted, the phenomenal success of the Milwaukee Medical College and School of Dentistry is to be no ephemeral one.

Graduation Exercises.

The Trinity Hospital Training School for Nurses held its graduation exercises on the evening of the 10th inst. Six young ladies who had spent two years in study and practical work in the hospital and in private received their diplomas, and will soon begin in public the work they are so eminently well qualified for. The names of the young ladies are Miss Gysbers, of Waupun; Miss Koran, Racine; Miss Hickson, Delavan; Miss De Noyer, Milwaukee; Miss Larsen, Eastman, and Miss Petersen, Northport.

The exercises were opened by prayer by the Rev. Kiehle. Dr. B. A. Brown delivered the address, filled with advice and encouragement. Miss Hickson delivered the valedictory, a very fine effort, which we take pleasure in reproducing. Dr. Neilson, with a few words, delivered the diplomas. Dr. Earles made some congratulatory remarks and the benediction was pronounced by Rev. Mr. Kiehle. Excellent vocal and instrumental music was furnished by Prof. Ehlman and family and by Prof. Williams, of Racine. Banks of flowers and potted plants fairly surrounded the graduates, and certainly the young ladies have many well-wishers. The field for the work of the trained nurse is constantly broadening, and as physicians grow more and more to appreciate the inestimable value of a conscientious trained assistant they will be more free in recommending the services of such a one to their patrons. It surely gives one a great sense of relief to have one of these young ladies assume control of the carrying out of your directions, and we are warranted in believing that many a life is saved by the calmness, kindness, firmness and gentleness of the trained nurse. The Trinity Hospital Training School for Nurses has now graduated four classes, and the management feel that in doing this they have done a beneficent work.

Valedictory Address Delivered at the Graduating Exercises of Trinity Hospital Training School for Nurses.

BY MISS HICKSON OF DELAVAN, WIS.

No life is pleasing to God unless useful to man. Without doubt every woman is placed upon this earth for a definite purpose, and it is necessary for her future happiness that she be guided in the course which is best adapted to her native abilities and disposition.

It is but a few years since the domestic life was the only sphere in which woman could display qualities of mind and heart; but the world, in its progress, has now opened to her many avenues of usefulness, and among these there is none more useful, no work more self-sacrificing, more self-satisfying, than that chosen by the trained nurse.

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There is no field of labor that opens such broad opportunities for a life's work, for the good of suffering humanity, whether rich or poor, as ours, and the woman with the requisite qualifications, who is desirous of entering into a work or adopting a profession that is of absorbing interest, both honorable and remunerative, cannot, in my estimation, do better than train herself for a nurse.

We come before you to-night to make manifest that it is our intent and purpose to make our lives useful. Others have gone before us and found that there was need of their help, and we trust that our attempts will be equally as successful.

The world realizes more and more each day the true worth of the trained nurse, who has chosen her profession, not as a last resort, but for the value it will be to suffering human kind. Can it be else than love for her profession that prompts the true nurse to perform the many difficult tasks her vocation demands? Surely it cannot be other than this, for in no line of duty are we called upon to do a work that is more arduous, more trying to human nature and our physical weaknesses, than that which we have chosen. But we firmly believe that with the words of our class motto, "Ever faithful," sounding in our ears, we shall be able to conquer whatever difficulties may beset us and meet the approval of of the Great Judge. How pleasant will it be for us to hear at the final day the words, ".Well done, thou good and faithful servant; thou hast been faithful in a few things, I will make thee ruler over many things." Having spent two years in this school, we are now about to set forth upon the independent practice of our life's work. But before we go, it behooves me, on behalf of my class as well as myself, to express our heartfelt gratitude to the many friends and well-wishers of this institution.

To the physicians on the hospital staff we are indebted for that practical, scientific knowledge so necessary to success. Many are the ways in which you have manifested your interest in our work. Time will not permit the mention of any of them, but we assure you that all have been deeply impressed in our memories, and we trust that our work in the future will be so successful as to prove that we have not only heard your instructions but have profited greatly thereby.

To our Superintendent, who came to guide and assist us in this grand work, when it seemed the hardest and our duties the most difficult to bear, we extend our deepest gratitude. Your kind words of helpfulness and encouragement will ever remain with us, and long after we have ceased to be students at Trinity Hospital will your words of advice still guide us in those many trying hours which are sure to come to us all. May we leave with you some influence that will keep bright and pure in your memory the class of '96.

Fellow-students who remain here as undergraduates, we congratulate you that it is still your privilege to enjoy the advantages for study afforded by Trinity Hospital. True, your task may at times seem a hard one; you will surely meet with discouragements, and petty annoyances will cause many a heart pang beneath your gown of blue and white, but be like the mariner when encountered by storms: learn to meet and outride them. Consider nothing beneath your best effort.

Classmates, "Ever faithful" are the words written above the door through which we must pass to-night, and as we push back the door and peer out into the dim and misty future we ask ourselves, it may be in fear and trembling, What does that future hold for us? We have been guided to the threshold of this future by gentle, patient hands, but now we must go alone each to her field of labor to meet success or failure. We met here as strangers; we part to-night as more than friends, sister nurses, and wherever we may be called upon to go the influence of the life of each one will go with us and make sweet the memory of our two years' training; remembering

"The sweetest lives are those to duty wed,
Whose deeds, both great and small,
Are close knit strands of an unbroken thread,
Where love ennobles all.
The world may sound no trumpet, ring no bells,
The book of life the shining record tells."

And now, dear friends, while thanking you severally and collectively for all you have done for us as a class and as individuals, and under a deep and lasting sense of our obligations to you all, we as a class bid you an affectionate farewell.

DR. WINGATE has returned from Detroit where he was in attendance on the National Society of Health boards.

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Publishers' Column.

A High Reputation Sustained.

The Medical Times and Hospital Gazette, London, May 30th, 1896, speaks so favorable of its experience with the American analgesic, antipyretic and anodyne, a preparation the medical profession has become accustomed to regard as one of the certainties of medicine, that we reprint below its words of approval, knowing them to be in accord with the consensus of opinion as expressed by the medical men in this country. "Antikamnia—under the above name, a free translation of which is 'opposed to pain'—now being introduced to the profession in the United Kingdom as an analgesic, antipyretic, and anodyne drug, which has already gained a high reputation in the United States. It is a coal-tar derivative, and belongs to the series which form the various amido compounds. It differs therapeutically, however, from most coal-tar products in producing a stimulating, instead of a depressing action on the nerve centers, especially those acting on the heart and circulatory system; hence, it may be administered, even in large doses, without fear of producing collapse and cyanosis, as occasionally occurs after the administration of antipyrin and other similar analgesic compounds. It has been very largely used in influenza, hay fever and asthma, with good results; but its most markedly beneficial effects are experienced when administered in neuralgia, rheumatism, sciatica, headache and pain due to disorders of menstruation. As an antipyretic, it is recommended to be given in doses of from five to ten grains every ten minutes, until the temperature has been reduced, or until forty or fifty grains have been taken, after which the remedy should be given at intervals of greater length. To relieve pain it is recommended to begin with a five-grain dose; three minutes later the same dose to be repeated, and, if the pain continues, a third dose to be given a few minutes after the second. In our practice we have not found it necessary to give the remedy at such short intervals. In the treatment of neuralgia and headaches we have had satisfactory results from giving five-grain doses at intervals of ten to twenty minutes, until three or four doses have been taken. We may add that the drug is sold in tablets (three and five grain sizes) as well as in the powdered form. The former may be swallowed whole or crushed and dissolved in glycerine and water, or in an alcoholic menstruum. The powder is conveniently given in cachets, or dissolved in a little wine or aromatic tincture, combined with glycerine or syrup. The drug is deserving of trial, and those among our readers who have not yet tested it should write for a sample."

Irritable Bladder with Painful and Difficult Micturition—Dysmenorrhea.

I have the pleasure to state that in some derangements of the genito-urinary organs much benefit has been derived from the use of Sanmetto. In irritable bladder, with painful and difficult micturition speedy and decided relief is undoubtedly afforded by it. Also in dysmenorrhea much benefit has been derived from its use, especially in the cases of young and not fully developed girls. In the limited experience that I have had in the use of Sanmetto I have been well pleased with its effects.

W. W. ANDERSON, M. D.
Stateburg, S. C.

Prevalent Malarial Conditions.

When two such well-known drugs as antikamnia and quinine are offered to the profession it hardly seems necessary to indicate the especial class of affections which call for their use. Antikamnia may now unquestionably be called a perfect substitute for morphine, for internal administration. It has complete control over pain, while it is free from the undesirable after-effects of the alkaloid of opium. But antikamnia not only possesses the good qualities of morphine without the bad, but it also has the properties peculiar to the coal-tar series. In cases of malarial fever the combination of antikamnia and quinine should be given as a prophylactic and cure. For all malarial conditions quinine is the best remedy we have. But associated with this condition there is always more or less pain, which often renders the life of the individual uncomfortable, if not positively miserable. Antikamnia will remove these unpleasant symptoms and place the system in the best condition for the quinine to do its work. There are a number of ailments, not closely defined, which are due to the presence of malarial poison. All such conditions are greatly benefited by the use of this combination. "Antikamnia and Quinine Tablets," each containing 2½ gr. antikamnia, 2½ gr. sulph. quinine, meet the indications most frequently. In headache (hemicrania), in the neuralgias occurring in anæmic patients who have malarial cachexia, and

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in a large number of affections more or less dependent upon this cachetic condition, the regular administration of these tablets will produce the most happy results.

SANMETTO IN BRIGHT'S DISEASE—Dr. C. E. Stafford, Trigg, Va., writing, says: "I have used Sanmetto with the very best results. I succeeded in making a case of Bright's disease much more comfortable by the use of Sanmetto, and am satisfied it should be used oftener in this disease. I regard Sanmetto as an efficient and elegant remedy for diseases of the genito-urinary organs."

Selections.

Use of Formalin in Ophthalmic Practice.

BY SWAN M. BURNETT, M. D., PH. D., WASHINGTON, D. C.

Read before the Medical Society of the District of Columbia, April 8, 1896.

Formalin is a 40-per cent. watery solution of formaldehyde. Formal, the German preparation, is of approximately the same strength.

Formaldehyde itself is a strong escharotic and one of the most powerful germicides and antiseptics known. Animal tissues suspended in its fumes are preserved from putrefaction. As a tissue-preserver formalin has no superior, and will no doubt supplant alcohol for that purpose, since it is much cheaper, and has many other advantages as a preserving agent. In the first place, it does not act by extracting the watery constituents from the tissues, and there is, therefore, no shrinkage, and consequently no distortion of the elements from their normal relations. The tissues also retain much of their original color and transparency. Even the crystalline lens does not become completely opaque under its influence for quite a long while. In the preparation of tissues for section for microscopic examination, therefore, it is vastly superior to alcohol, or Muller's fluid, or any other agent that has been yet employed for that purpose, and it has the further advantage of being very rapid in its action. An eye will become sufficiently hard for cutting in three or four days in a 5-per-cent. or 10-per-cent. solution, which is the strength usually employed as a hardening agent.

The ophthalmological world first became aware generally of the value of this quality of formalin through Prof. Leber, of Heidelberg, at the Ophthalmological Congress in Edinburgh, in 1894. The credit of its first use, however, I believe, belongs to Hermann.

These qualities of the chemical are already recognized by many, but are not, I think, as widely known as its merits demand, and for this reason I here call attention to them again.

My special purpose in this short paper is to set forth its therapeutic value in ophthalmic medicine and surgery. A germicide of its great power—first noticed by Lowe in 1888—is an important addition to our list of remedial agents, not only because of its efficiency, but likewise because of certain other advantages which it possessed over any other known antiseptic of equal power. It has little, if any, toxic properties. Up to this time no case has been reported of any deleterious effect from its use.

It has one other property peculiar to it, or certainly not possessed by any other drug to the same degree, and that is its power of rapidly diffusing itself through the tissues. This applies not only to the dead tissues, but to the living as well. One great drawback to the efficiency of sublimate as we know, in addition to its toxic effect, is its power of coagulating the albumen at or near the surface, which not only forms a barrier to its further penetration of the tissues, but even constitutes a good nidus for the development of pathogenic germs. For this reason, therefore, formalin should be more useful than any germicide we have, for that class of infections in which the microbes penetrate below the surface and into the substance of the tissues.

Most excellent results have been obtained from its use in infecting ulcers of the cornea and purulent conjunctivitis. My own experience with the remedy in both forms of disease has been very encouraging. The corneal ulcer can be touched with a solution of 1 to 200 or 1 to 500 once every day, and for general use as an antiseptic a collyrium of 1 to 1,000 or 1 to 2,000. I have a few times cauterized the ulcer with 1 to 100. One case of serpiginous ulcer I treated with formalin alone, and it turned out more satisfactorily than I have seen such cases by the old methods. In muco-purulent and purulent conjunctivitis my experience has been most satisfactory. I have not yet relied upon it alone in the severe forms of purulent conjunctivitis, but in the milder forms I have, and have had no reason to regret it. But even in the severe cases I use it as a general antiseptic in addition to the silver nitrate. In acute

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catarrh of the conjunctiva (pink-eye) it has acted most promptly when used as a collyrium of the strength of 1 to 1,000 or 1 to 2,000 applied every four hours. I have also tried it in those cases of chronic conjunctival congestion with diminished secretion, which are often so rebellious to treatment, and in most instances with good results.

For ulceration of the edges of the lids, so far as I have had any opportunities of using it, the remedy has seemed to act well. The dosage in such cases is to be regulated by the desired effect, from 1 to 100 as a mild caustic, to 1 to 2,000 as a stimulant. I can commend it to the surgeon and dermatologist as most valuable in ulcers of the skin of all kinds and especially for those indolent ulcers with hard edges resembling epithelioma. The effect of the remedy on one such ulcer of the lower lid was very decided and prompt.

For the disinfection of instruments and keeping them aseptic, it has the great advantage of not dulling the edges of knives. It can also be used for washing out the conjunctiva previous to operation on the eye, though its disadvantage for this purpose is the slight burning sensation it causes sometimes even in solution of 1 to 1,000. This, however, is trivial.

So far as my knowledge of the literature of the subject goes it has been used therapeutically in eye-affections by only a few. Guaita, of Sienna, and two surgeons in England have made the only publications I have seen.

In discussing this paper, Dr. C. R. Dufour said that formalin was a 40-per-cent. solution of formaldehyde in water. Formaldehyde was a gaseous body made by the oxidation of methyl alcohol, its chemical formula being CH_2O. It was quite soluble in water and for this reason was put on the market in solution, formalin, mixed with water in all proportions therefore, it was easy to make any solution of any strength desired. As a germ-destroyer it was a valuable agent, as it was not affected by the presence of any organic or inorganic substance; and attacked only the contagious material. It could be employed in either a liquid or gaseous form, the gas being given off on heating it. It was non-toxic, and altogether it was a much more available germicide than the bichlorid of mercury or any other substance used for that purpose. In ophthalmic practice it was being used successfully in all inflammatory conditions due to the presence of germs. It was a valuable agent for sterilizing collyria; solutions of atropin, eserin, cocain, etc., being kept unchanged for over a month. It did not irritate the eye, and caused only a slight smarting, which soon wore off. The usual strength for use in the eye was 1 to 2,000. Dr. Valude said that it did not attack metals and considered it the best antiseptic solution to keep instruments in before and during operations. It destroyed the bacilli of diphtheria and for that reason would be a good remedy for spraying the throat, also as a topical application to the membrane. As a spray it might be used in the strength of 1 to 500 to 1 to 1,000, and as an application direct, 1 to 60 or 1 to 100. It was also the best agent for hardening specimens, as it had the power of preserving tissues in their normal transparency. The cornea and lens remained clear in it for a very long time. As a hardening agent it should be used in about 10-per-cent. solution; as a preservative, in about 1-per-cent. It was a better preservative than alcohol as it did not dehydrate the tissues as alcohol does. It was also valuable in rendering aseptic such articles as sponges, clothes, books, and also rooms, rendering them sweet, clean and pure

Dr. Forwood stated that he had had no experience with formalin as a therapeutic agent, but that he had been experimenting with it at the Barnes Hospital during the past three years with the object of determining its value as a surgical antiseptic. His attention was first called to it by the fact that in the bacteriological laboratory it was used to stop the growth of bacteria in the culture-tubes. Formaldehyde gas was the agent used in this way and he conceived the idea that it might be applied in other ways as a sterilizing agent in the operating-room. It was not useful in sterilizing instruments, because it attacked the metal immediately and caused a red deposit of oxidation. Unfortunately also, it could not be used on the hands because of its caustic effects upon the skin. In one respect he had found it very valuable, and that was in sterilizing sponges. It was capable he thought of restoring sponges to surgical use without danger of sepsis. It had been feared at one time that the use of sponges would have to be abandoned in surgical operations, but now they could easily be sterilized in formaldehyde. After washing the sponges thoroughly in the usual way they were placed in a jar containing a few ounces of formalin. The formaldehyde gas rose and penetrated every part of the sponge and destroyed the germs. As an example of its penetrating power he stated that it would

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harden gelatin which had been liquefied by bacteria, and also penetrate and destroy the germs to the bottom of agar-cultures. After a sponge had been treated in this way it was not safe to handle or use until it had been well washed with warm sterile water. His first experiment on sponges had been with one taken from the dead-house—one that was thoroughly saturated with germs. He suspended this sponge in a jar of formalin and made cultures from it at different times, and after three or four days no further growth appeared. It had now been suspended in the jar three years without injury. Sponges could thus be very conveniently kept in a jar with a little formalin and were always ready for use. In the same way he had been able to sterilize all kinds of rubber material, kangaroo-tendon, cat-gut, silkworm-gut, silk, etc., without injury. It did injure silk-elastic catheters, however, which was unfortunate, for they were now very difficult to sterilize. They might be immersed in formaldehyde, but in a few days they became rough.

Dr. J. Ford Thompson said that the struggle for practical antiseptics had been going on for many years, and this evening had given him more encouragement for antisepsis than he had ever before had. If this formalin would do what was claimed for it we were in the neighborhood of ideal surgery. If a 1 to 1,000 solution of formalin would destroy the staphylococcus, streptococcus and tetanus bacillus our dreams were about to be realized. He had not been carried away by the expressions of specialists, and in the last few years the tendency had been to abandon antisepsis and rely on asepsis, this change having been brought about by a lack of confidence in antiseptic agents. Dr. Forwood, however, had subjected this drug to a most crucial test in the disinfecting of sponges. If formalin would do all that was claimed for it he regretted that he had been using it to preserve pathological specimens when he might have been preserving live tissue. But the question was, were these things true that were said of it? Similar preparations were brought before his attention nearly every day, but he had not had sufficient confidence in any of them to use them in preference to those he was familiar with. For years past he had relied upon boiling of the material he used. But it was notorious that the boiling point of water, while it would destroy the germs failed to destroy some spores. Yet it was claimed that what a temperature of 212 degrees maintained for hours could not accomplish, formalin could accomplish in a few minutes. He had been accustomed to scrub his hands energetically with antiseptics until the skin was almost rubbed off (and even then some one would come along and claim to find pathogenic bacteria under the nails), yet with this preparation all that will be unnecessary. Now that the millenium had come with the introduction of this preparation there would be no further use in getting up complicated sterilizers. He hoped all these things were really true, but it looked to him as if the thing were going beyond reason, and it did not appear to him that it had been taken up as a matter of such importance should be if there was anything in it. And it seemed to him, also, that the great men all over the world, whose work he followed closely, appeared to have overlooked the wonderful properties of this drug. The question was, however, were men getting the brilliant results they claimed in this simple way, while, try as he might, he sometimes got results that he regretted. He was surprised, to find that he was so much behind the times, but he would begin tomorrow to use formalin and to do everything that a man could do to get the results advertised. He had been using antisepsis, in a modified form, ever since Lister first brought it forth. It did not appear that hospital records show any difference between the results of one man who used the complete antiseptic method, and that of another who used absolute cleanliness only. Lawson Tait used to say that he would dress his wounds with bacteria if he could get enough of them. It took a long run and a close one to establish great principles, and he would hardly give the snap of his finger, he said, for the opinion of any one man. Very many of the things that sprang into prominence had turned out to be myths, and so would some of the recent things in surgery. He spoke of iodoform as one of those things which had been highly lauded as an antiseptic, and now bacteriologists were saying that it was not an antiseptic at all, and that germs planted in it would grow. The laboratory test was not by any means a certain one, and practical experience had demonstrated that iodoform did stop the growth of germs.

Dr. James Kerr thought that a mistake was made in accepting the conclusions of special departments in reference to antiseptics. So far as the general management of wounds was concerned the profession had come to the conclusion that an aseptic tissue which could be kept so during operation would remain aseptic, and that a tissue once

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infected would remain so in spite of everything done to render it aseptic. Attempts to sterilize pus cavities, etc., had been unsuccessful from the fact that the germs were found to have penetrated into the tissues.

He had used formalin extensively, but had found it impracticable as far as use on the hands was concerned, and he regarded it as inferior to permanganate of potash in disinfecting offensive cavities. He had tried it in cystitis without benefit. He also used it in tetanus from a gun-shot wound. After cutting out the affected tissue he tried formalin, using it in sufficient strength to change and harden the tissues of the leg, but it had no effect on the growth of the disease. He had also used it in open wounds, but he was not satisfied with the result. Formalin was impracticable in many respects and inferior to the commonly used antiseptics. The fact that good results were obtained with it in the laboratory had no weight, for you could not get the same effects on living tissue that were possible in the laboratory. What had been said in the laboratory about the inutility of iodoform would always have an effect upon any statements coming from that source. He knew from practical experience that iodoform had no equal in controlling the growth of germs in the tissues.—*Journal of Practical Medicine.*

Remarks Upon a Case of Asthma.

By John Dunn, M. D., Richmond, Va.

Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of the Eye, University College of Medicine; one of the Surgeons to Richmond Eye, Ear and Throat Infirmary, etc.

Rhinology, as developed since the discovery of cocaine, has taught nothing more clearly than the possible relationship between asthma and abnormal intra-nasal conditions. To one acquainted with the functions of the nose as a part of the respiratory apparatus, it is a matter of wonder as he passes in review the various asthmatic remedies, bearing in mind the meanwhile their physiological actions, that the nose was for so long a time overlooked by the seekers after the locus unde of this disease. And, as a rule, it is with a feeling of no little confidence that the modern rhinologist turns to an examination of the nose in those cases of asthma which have received either no or only general treatment; for experience has taught him to expect to find ethmoidal disease. It is in those cases where there are no visible evidences of ethmoidity, and these cases form not an inconsiderable proportion of all cases of asthma, that the teachings of rhinology on this subject receive their severest blow.

It has long been my belief that latent ethmoidal derangement is present in many of these cases where the visible intra-nasal conditions appear normal. The following case, which furnished the text for these remarks, has served but to confirm this belief.

Mrs. D., aged 38, has suffered severely all her life from asthma. General treatment afforded but temporary relief. When 31 years of age, she consulted one of the best of the Southern nose specialists. From her account of the treatment received at his hands, I am sure that there were at that time discoverable no intra-nasal diseased conditions other than slight turbinate hypertrophy. Obtaining no relief at his hands, Mrs. D. for the next seven years continued to suffer from asthma, trying, perhaps, in the meanwhile, everything suggested, except further treatment of the nose.

When 38 years old, Mrs. D. was sent to me. At this time, what was the condition of the nasal cavities? Practical occlusion of the air passages of both sides above the level of the middle line of the inferior turbinates. This occlusion was caused partially by polypi, partially by soft, and partially by bony hypertrophy of the middle and superior turbinates, while from between the polypi there exuded a constant flow of pus. I am convinced, from the great care given his cases by the specialist above referred to that no evidence that such a condition of the nasal cavities existed when, seven years previously, Mrs. D. was under his care.

This late appearance of ethmoidal degeneration, which further treatment proved to involve practically the whole of the ethmoidal body, is the point in which centers the interest of the case.

Now, while it is possible to conceive that the condition of affairs existing in Mrs. D.'s nose at the age of 38 may have developed in an ethmoid, which in all its parts was normal when Mrs. D. was 31, it is not in the slightest degree likely that such was the case.

Functions of the Nasal Accessory Air Chambers. When we compare the whole extent of the ethmoidal bony surfaces covered by mucous membrane with the amount of these surfaces visible in rhinoscopic examination, both anterior and posterior, we are forced to admit that in the living subject, relatively very little of the ethmoid

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is open to our inspection. In favorable cases, we can see the inferior and portions of the interior surfaces of the middle turbinates, and a portion of the superior turbinates; the remaining portions of the ethmoidal bodies are not revealed by rhinoscopy. And what are the remaining portions? The ethmoidal cells, posterior and anterior; or still better, the fronto-ethmoidal, the lachrymo-ethmoidal, the maxillo-ethmoidal, the spheno-ethmoidal, and the palato-ethmoidal.

If we take a dried ethmoid bone in our hand the first thing that strikes us, after its peculiar shape, is the extreme thinness of the bony partitions between the cells. To one bearing in mind the possibility of inflammatory changes, the imperfect drainage system of these cells is at once forced upon him. To one who has had his attention drawn to the various symptoms, direct and reflex, which result where the turbinates are sufficiently hypertrophied to press against the septum, it is no longer a wonder, as he views the construction of the ethmoid bone, that pressure reflexes should result in them where diseased conditions exist.

One asks, what are the functions of this peculiarly-shaped organ? The answer to this question, so far as the parts covered with the so-called erectile tissue and the parts to which are distributed the ultimate filaments of the olfactory nerve is in most respects satisfactory; but when we consider how relatively small are the areas covered with the erectile tissue and supplied by the nerves of smell, the answers then become unsatisfactory. Taking the ethmoid bone in our hand and looking at it from above, our attention is at once drawn to the hardness and polish of the cribriform plate with its numerous perforations, the central ones of which on either side open directly downwards, while the external ones open downwards and inwards—not one of them opening towards the ethmoidal air cells of the two sides. Our conclusion, then, at once is, that save the internal aspect, that bare to the septum, the ethmoidal bodies have nothing to do with the sense of smell.

The so-called erectile tissues confined, so far as the ethmoid bone is concerned, to the exposed surfaces of the regions of the superior and middle turbinates, leave the functions of the ethmoidal air cells totally unaccounted for; yet, that they serve some purpose in the human economy, either actual or under given circumstances, their important position and peculiar construction forces us to admit. Whatever their functions may be, of the same nature are those performed by the maxillary, sphenoidal and frontal sinuses. When one looks at the human eye and considers that nature has placed it, surrounded for a great part by cellular tissue, loosely in an orbit whose inner, inferior, and, to a certain extent, superior walls, are bounded by thin-walled air spaces, while posteriorly there are great gaps in the continuity of the bony walls, one comes to the conclusion that these air spaces serve in some measure as protectors for the eyes by disseminating the lines of force of blows received on the head. This function of the bony air spaces about the eye appears all the more forcibly to one who has watched carefully the results of concussion of the retina. How far the ethmoidal, maxillary, sphenoidal and frontal air cells take part in the important nasal functions of warming and moistening the inspired air, has, so far as I am aware, never been determined. Certainly it has never been done with any degree of accuracy; and yet it is likely that these air cells play no insignificant part in respiration by adding to the inspired air current warmed and moistened air.

Let us look, for a moment, at the channels for exit of the various air chambers, opening into the nose. Those for the frontal sinuses and anterior ethmoidal cells open downwards and backwards, while opposite their exits lies the opening into the maxillary sinus of either side. The posterior ethmoidal cells open downwards and backwards, while the sphenoidal sinuses, the only ones opening forwards, *lie posterior* to the plane of descent of the air column drawn into the lungs through the nose. These peculiarities of the channels for exit and of the exits themselves, naturally suggest that they are of physiological importance. With the mouth closed, if we inspire through the nose, it is in the highest degree probable that the nasal accessory air chambers—including, of course, the ethmoidal cells—give of their contents to the current of air entering the anterior nares from without. If so, when we exhale, still with the mouth closed, the refilling of these air chambers is done by the air which lies chiefly at the top of the column of air resulting from the inspiratory act. The air currents, the result of the act of respiration, may, in their passage through the nose, be compared to the rise and fall of the tide, and, with modifications, one can see, in the mind's eye, in miniature, the filling and emptying of the nasal ac-

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cessory air chambers if he will but picture the ebb and flow of the series of waves, caused, for instance, by a river steamer, as they rush in and out of a small creek, pouring its water into the river.

Taking this view of the nasal accessory air chambers, we can see that they act as temporary reservoirs for air which has remained a short while in the nose, naso-pharynx and pharynx, and which has received from these parts a certain amount of heat and moisture; a further supply of both of which may be furnished by the lining membranes of the air chambers themselves.

And it is the mixing of this air, already warmed and moistened, contained in these air chambers, with the current of external air passing through the nasal air passages, that assists in no small degree in rendering the external air suitable for use in the lungs. For it is hardly possible to conceive that the external air can be raised to the required temperature solely by its passage over the turbinates, however active their functions, however complete their mechanism. As we said above, the air contained in the air chambers opening into the nose is kept, in nose-breathing, warm and moistened by being refilled at each expiration with air which has already received from the mucous membranes an amount of heat and moisture.

It is further not unlikely that in inspiration the density of the air contained in these chambers is slightly lessened, which change serves reflexly as a stimulus to further action of the inspiratory muscles; during expiration, the density being changed, but in the opposite direction, serves reflexly as a stimulus to the expiratory effort. This rhythmic change of density in the air contained in the air chambers under discussion, though small, doubtless serves, in a healthy nose, to a greater extent than physiologists have as yet admitted, as expiratory and inspiratory stimuli.

In some cases the ethmoidal air cells have been entirely destroyed by disease, and yet no asthmatic symptoms have developed. This point may be borne in mind in the treatment of general ethmoidal degeneration, causing asthma. That such degeneration is from time to time accompanied by asthmatic symptoms, no one now denies.

But how about those cases of asthma where there are no visible evidences of ethmoidal degeneration? A patient, and I take a case from my note-book, age 23, robust, general health excellent in other respects than attacks of shortness of breath, which comes on at any or all seasons, and under conditions so diverse as, to her mind, for it to be impossible that outside conditions can have any effect in the causation of the asthmatic trouble. Ask her what treatment she relies on, and you have for an answer that everything seems for a little while to do good, and then everything fails. Examine her lungs; they are normal. Her heart; also normal. Digestion, good; and yet at times food seems to "bring on the asthma." Larynx normal. Lower pharynx normal. Trifling enlargement of parts of the lingual tonsil. Tonsils normal. Third tonsil shows slight hypertrophy. Slight hypertrophy of the so-called erectile tissue of the inferior turbinates. This hypertrophy was proven, by the use of cocaine, to be of the false variety—*i. e.*, the tissues shrunk to a normal size under its application. In other respects, visible intra-nasal conditions are normal. In short, our patient has, in her upper air apparatus, no condition which we do not see daily in patients who have no asthmatic trouble, and which we allow to go untreated as being normal. And yet our patient will tell us that a damp day, or a close room, or over-exertion, will make breathing for her a well-nigh impossible task. Where is the trouble? "I suppose, doctor, it is an inherited trouble." Be that as it may, our question remains unanswered.

Yet the role played by heredity in determining the possibility of asthma may not be overlooked, not under-estimated. It is, in a large per cent. of our cases, the determining factor. But through what channels? Through the ethmoid cells and their mucous linings.

There is a class of asthmatic patients, who suffer severely, and for long periods of time, almost unremittingly, and whose nasal cavities show to rhinoscopy no marked hypertrophic conditions of the turbinate tissues, no degenerative ethmoidal changes; yet, to a trained eye, the appearance of the mucous membrane lining the nasal cavities, and also naso-pharynx, is abnormal; that an irritant, whether external or constitutional, is producing effects upon the nasal mucous membranes, is evident from the abnormally moist condition of these membranes, as well as from the appearance of the skin where it passes into mucous membrane, about the entrance to the antertor nares. In these cases, it is in no way unusual to find slight overfilling of the turbinate tissues; this, however, is the result and not the cause of the nasal irritation.

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It is observation of this class of cases which, giving us, it may be, the key to the understanding of the third class—viz.: those who suffer from asthma, and yet there is in the nasal chambers an absence of any visible changes of such a character as to allow us to say—here is the source of the symptoms. And just here I must digress for a moment to enter a protest against the use of the cautery—whether electric or acid—in the nose of every patient having asthma, simply because he or she may have asthma.

The nasal cavities should be rationally treated. Where there do not exist indications for the use of the cautery, its application will have no more effect in producing a cure than will an emetic or a cold plunge.

It is not to be denied that the application of chromic acid or the electric point to a turbinate not the cause of the trouble does sometimes, for a short period, afford patients some relief from the asthmatic attacks; and that this is so has given birth to the idea that if the mucous membrane of the nasal cavities be regenerated by the application of acid to its whole surface, the application of the acid to different sections of the membrane being made, at shorter or longer intervals, until the whole surface of the membrane, so far as it is possible to reach it, has been destroyed and renewed, that it is possible to eradicate the cause of the asthma.

That such a treatment is born of half-considered hypothetic suggestions is evident to any one who will bear in mind that it is impracticable to reach with the acid more than a varying proportion even of the exposed mucous surfaces of the nasal air passages, while that nature should be so considerate as to confine the seat of the trouble to that part of the exposed mucous membrane, varying in each individual, to which we can make an application, is not for a moment to be believed. We do have cases, and many of them, where the use of the snare, the drill, the various cauteries, may be used with excellent results, but there exist definite indications for their use, and these indications do not teach us to destroy muscous surfaces simply because there exist asthmatic symptoms; nor because their destruction is followed, for a few hours or a few days, by relief of these symptoms.

In the third class of asthmatic patients, that in which there do not exist in the nasal cavities visible alterations of such a character as to differentiate the appearances presented from those seen in a nose fairly healthy. I use this indefinite term, inasmuch as it is a rare thing to find a nose whose air chambers do not present some variations from the typical "healthy nose;" and, in using it, I mean a nose not showing marked hypertrophy, marked septal spurs or deviations, polypi, etc. *In this third class, it is not unlikely that the seat of the trouble is at times in the ethmoidal cells.* If we consider the thinness of the bony posterior walls dividing these cells, if we consider the fact that not unfrequently the opposing forces in the individual cells are very close together, so that congestion of the opposing mucous membranes means that they must touch each other, that further congestion means pressure, means possibly the forcing of one or the other of these opposing walls towards the adjacent cell-room; if we bear in mind that the exit of one or more cells may be abnormally small, that congestion may mean closing of this exit, that closing of this exit may mean exhaustion of the contained air, with its sequelæ; if we bear in mind that there may be only an imperfect development of the ethmoidal air-spaces, due to inherited conditions, which impose upon the deformed ethmoidal body the necessity of obtaining its nutrition from a mucous lining, itself carrying the necessity of degeneration, from a mucous membrane, whose resistance to outside influences is abnormally weak, in which congestion means irritation to such an extent that the nerve impulses necessary to the respiratory acts are inhibited, and the patient, with the entire tract of air-passages free, suffers the anxiety of threatened suffocation.

In this third class of the cases it would seem that the lesion may be of such a character that visible degenerative changes in the ethmoidal body may not occur during the patient's lifetime.

Again, however, as in the case above reported, while visible alterations may, for years, be absent, finally, either as the result of intercurrent disease, grippe, etc., or, idiopathically, there may result marked visible degenerative changes, which may render curable symptoms whose cause for years has remained beyond the reach of the rhinologist's direct treatment.

If the above suggestion, that certain forms of asthma owe their origin to abnormal intra-ethmoidal conditions, of which intra-nasal examinations give us no certain indications, be true, then the case above reported furnishes two lessons: In the first place, that in such cases our

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treatment should be constitutional; in the second that examinations of the nose should be made at intervals, shorter or longer, that we may treat the local manifestations of ethmoidal disease so soon as they make their appearance.—*Virginia Medical Semi-Monthly.*

Resection of the Vas Deferens for Hypertrophy of the Prostate, with Report of a Case.

By Leonard Freeman, M. D.,

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Read before the Denver and Arapahoe Medical Society, March 10, 1896.

When an old gentleman has led a virtuous and temperate life, it seems but just that his declining years should be passed in something like peace and comfort. But that does not appear to be always the design of Providence. The obscure and unappreciated prostate gland, which has long stood guard at the orifice of the bladder, often asserts itself, and serious trouble results.

After a long delay, Providence seems to have taken pity upon the legion of old gentlemen who are sitting up nights, industriously inserting catheters into inflamed bladders; and through the agency of J. William White has offered them a means of relief. The price, however, is to many of them enormously great. Even men who have long since passed the age of sexual activity are averse to losing their testicles. They may recognize that the glands are useless, but popular prejudice is so strong against so-called "unsexing" that a death of torture is preferable to castration. I recently saw a man suffering the most severe consequences of an enlarged prostate, who, when told that the removal of the testicles offered him the surest method of relief, combined with the greatest safety, said he would rather die "as God made him"—and he died. But God did not make him with an enlarged prostate.

It was Ingersoll, I think, who claimed that the order of things should be reversed—in old age man should lose his testicles and retain his teeth. However that may be, without our knowing exactly why, there seems to be something seriously wrong in the existing arrangement.

It has been abundantly proved, by experiments on dogs and by numerous operations on man, that castration causes shrinkage of the prostate gland, with more or less relief from the severe consequences of its enlargement. Quite recently it has been suggested that resection of a portion of the vasa deferentia might answer the same purpose. White, King and Pavone have demonstrated that this is true with dogs at least. It was observed that the testicles sometimes underwent marked and sometimes but slight changes, while the prostate was always reduced in size to a varied extent.

Isnardi made the first operation on a human subject. The experiment was unsuccessful, as his patient had a cancer of the prostate instead of simple hypertrophy. Not discouraged, however, he tried again, with good results. Successful operations have also been made by King, Brown, Chalot, Guyon and a few others, although the number of cases is as yet far too small to draw any definite conclusion. J. William White and Mansell Moullin regard the procedure in the light of a "justifiable experiment." This status of the operation should, of course, be thoroughly appreciated by the patient on whom it is to be tried.

I desire to report in this connection a resection of the vasa deferentia which I recently made for an enlarged prostate. The patient was about seventy years of age. The trouble began about ten years ago with sudden retention of urine, which was relieved by catheterization. No severe symptoms followed for a number of years, although nocturnal urination was frequent, and a catheter was occasionally required. About two years ago cystitis developed, and the patient's condition became rapidly worse. He had to get up during the night very frequently, and the urine was loaded with pus, and occasionally some blood appeared. The condition in which I found him last April was pitiable—exhausted and emaciated from loss of sleep, fever, gastric disturbances and pain. Only a small quantity of urine could be passed at a time with much effort. The amount of foul, purulent, residual urine was large. The prostate was the size of a small orange, smooth and hard. The left lobe was somewhat smaller than the right, but not markedly so.

Under the constant use of salol internally and irrigation of the bladder with solutions of potassium permanganate of gradually increasing strength, he slowly improved until his condition might be called good, except that urination was impossible without the use of the catheter.

During the fall, without apparent cause, the old symptoms returned with increased severity.

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In spite of salol, rest in bed and irrigation once or twice daily, the old gentleman grew worse. He was informed that operative interference of some kind was imperative. His enfeebled state rendered prostatectomy a dangerous procedure, hence castration was unhesitatingly recommended. As he strongly objected to so mutilating an operation, resection of the vasa deferentia was suggested. It was explained that the operation, although not particularly dangerous in itself, was of such recent date that it must partake somewhat of the nature of an experiment. The patient requested its trial.

The operation was made on January 6, 1896, Dr. Higgins administering chloroform. According to the advice of Isnardi, about half an inch was removed from each seminal duct, little or none of the surrounding tissues being included. No vessels required attention, and the operation was rapidly completed, the wounds being sutured with cat-gut and closed with gauze and collodion. Healing was uneventful.

The condition of the bladder was such that it was deemed advisable to continue the irrigation once a day.

A few days after the operation, improvement set in, manifesting itself in a gradual subsidence of the inflammatory symptoms. At the end of about two weeks the catheter was required but three times during the night, while previously he was up and down every few minutes from bedtime until morning. The urine became much clearer, and but small quantities of blood appeared at infrequent intervals. Strength and weight were slowly regained until at present, eight weeks after the operation, the old gentleman is really in better health than he has been in two years. He has to evacuate the bladder but once or twice during the night, and he can eat, sleep and go about the city with satisfaction.

A catheter enters more freely than formerly, although the urine cannot be voided spontaneously. This may be due, however, to atony of the bladder from long retention and inflammation, and not to the persistence of an obstruction. There is still some pus, and at long intervals a little blood, but the fever, strangury, frequent micturition and other distressing symptoms have completely disappeared.

An examination of the prostate shows that the left lobe has undergone marked atrophy, in fact, is no larger than normal and quite soft. The right lobe has decreased but little in size, although it is slightly softer than before. The division between the two is as abrupt as if the left half of the prostate had been removed with a knife. These changes began a few days after the operation, and at the end of two weeks were strongly marked. As far as I am able to judge, they have not yet ceased. The testicles have undergone decided atrophy and softening.

This case seems to me to be more interesting and instructive than if the prostatic atrophy had been complete, as it appears to throw light upon the much discussed question as to the means by which atrophy is produced.

A theory which has received considerable credence is that, the prostate being a sexual and not a urinary organ, its nutrition is naturally influenced by castration. It is rather difficult, however, to understand why the removal of functionally inactive glands should cause such decided prostatic changes. It has also been suggested that the ligation of certain veins or arteries may influence the glandular nutrition in some unexplained manner, but this is also difficult of comprehension.

Atrophy can hardly be caused by removal of the testicles as such, because ligation of the vas alone has produced the same result. It cannot be due to ligation of vessels, because it occurs when the vas is resected without disturbance of anything else.

Lastly, it seems not to be due to obliteration of the seminal ducts alone, as in the case I have reported they were ligated on both sides, while atrophy resulted on the left side only.

The explanation which appears best to satisfy the facts is, that the results are brought about through interference with the continuity of the sympathetic nerves, an idea which J. William White is inclined to support. In my own case, I perhaps stripped the vas clean on one side, while on the other a number of nerve fibers were accidentally divided. If I were to repeat the procedure I should include in my ligatures a certain amount of the surrounding tissues.

Since the above thoughts occurred to me I noticed an article by Pejewalsky, in which he claims to have demonstrated by experiments on dogs that the "excision of 'Cooper's nerve' produces atrophy of the prostate gland, but has no effect whatever upon the size of the testicles." There are other nerves which seem to be directly connected with the nutrition of the testes. White attempted similar experiments, but arrived at no

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definite results, as the nerves were too small to be easily found; hence it is hardly likely that the resection of the nerves alone would prove practicable in man.

Mansell Moullin mentions in a recent number of the Lancet a case in which, although one of the testicles had been completely atrophied from youth, enlargement of the middle lobe of the prostate occurred. This is intelligible under the theory of nervous influence; for although the testicle had disappeared, the sympathetic nerves were not interfered with.

Dr. Hugo Mager, of this city, tells me that he has recently performed resection of the vas deferens for enlarged prostate with immediate and gratifying success. He included, according to my suggestion, considerable tissue in his ligatures.

If the operation continues to prove as beneficial as it seems to have been heretofore, it will certainly be of great value. As it is comparatively harmless and easy to perform, it means much to the army of sufferers who are to be found in regions far away from skilled specialists and well-equipped hospitals. It is not a deforming operation, nor is it one from which the average man need shrink as he does from castration. It can be employed early in the disease when the chance of success is greatest, instead of being reserved, like castration, as a last resort, when often nothing can avail. Resection can even be performed under cocaine anesthesia when a general anesthetic is considered inadvisable.

Whether these hopes are justified or not remains to be proved by experience.—*Colorado Medical Journal.*

Treatment of Intraligamentous and Retroperitoneal Uterine Myomata.

By William H. Wathen, M. D., LL. D.

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Read before the American Gynæcological Society, May 28, 1896.

I assume that finally small intraligamentous or retroperitoneal myomata requiring surgical treatment will be removed *per vaginam* by nearly all abdominal and pelvic surgeons. Experience has demonstrated that such tumors may be more expeditiously and successfully removed through this channel with less shock, more speedy convalescence, and freedom from subsequent intestinal adhesions to the abdominal incision and ventral hernia. The dangers of injury to the ureters, bladder, or large vessels is diminished, and hemorrhage is, with few exceptions, easily controlled. If the myomata are entirely within the broad ligaments, or in the uterus without extending to the mucosa, they may sometimes be enucleated without removal of the uterus, leaving the woman capable of bearing children. In broad-ligament myomata it is usually best to attempt enucleation before hysterectomy, and if, as the operation progresses, it becomes necessary, the uterus may be removed. If small myomata lie in the anterior wall of the uterus, they may be enucleated by reaching them through the utero-vesical fornix, after the method of anterior colpotomy as practiced by Dührssen and Martin, carefully suturing with catgut the cavity from which the tumor is removed, and closing the vaginal incision; and small tumors in the posterior part of the uterus may likewise be enucleated through the utero-rectal fornix. Where it is possible to save the uterus in the removal of intraligamentous or retroperitoneal myomata, or in the removal of any uterine myomata, it should be done if the tubes and ovaries are healthy. There are, however, many cases of intraligamentous or retroperitoneal myomata that can not be removed without performing hysterectomy, and in such cases both ovaries and tubes should also be removed.

The technique of morcellation is so well known that it is hardly necessary to enter into any description of the various methods devised and practiced by vaginal hysterectomists. Each case, however, may in details require a separate method; and the operator must be prepared for any emergency. Where the tumors can be enucleated without excessive hemorrhage, the uterine and ovarian arteries need not be interfered with; but in many cases the conditions are such that, both in enucleation without or with hysterectomy, it is necessary to ligate or clamp the uterine arteries before attempting removal of the tumor or the uterus.

But the especial purpose of this paper is to describe a method of operating in hysterectomy for intraligamentous or retroperitoneal myomata too large to be removed *per vaginam*, and so firmly wedged in the pelvis as to make the abdominal operation difficult and protracted, or even impossible without great danger to important structures. The chief dangers in these cases are wounding

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the bladder, hemorrhage from inability to ligate the uterine arteries, and injury to the ureters in attempting such ligation or in enucleation, if removal is to be solely accomplished through the abdomen. Since in every hysterectomy we should, after the woman is on the operating table, thoroughly wash and disinfect the vagina, and sometimes curette the uterus, it will require but little more time to separate the vagina from the cervix and ligate or clamp the uterine arteries, which, if possible, should be done in continuity near the pelvic wall beyond the vaginal branches. We may then enucleate and separate the lower part of the uterus from its attachments, being careful to hug the uterus or tumors so as not to open the peritoneal cavity. The patient having been previously prepared for a cœliotomy, the abdomen is now opened and the operation completed from above. The adhesions, if any, having been separated, the ovarian arteries are ligated close to the pelvic wall, thereby practically cutting off all blood supply to the uterus or tumors. Having made a circular incision through the capsule entirely around the uterus and tumors near the fundus, which in some instances may include both ovaries and tubes, enucleation may be rapidly proceeded with, hugging the uterus or tumors so as to make no opening in the capsule, or the capsule may be incised at any point or after any method the operator elects and best meets the indications. The danger of hemorrhage or of wounding the ureters or bladder is reduced to a minimum. If after enucleation there is hemorrhage, it may be easily controlled by ligatures or tampon; and if a ureter is injured and is not immediately implanted into the bladder, the leakage will be extraperitoneal, and the urine passing out through the vulva will not cause peritonitis or sepsis. The capsule may be sutured in the lower part of the abdominal wound, removing all superfluous tissue, and the incision closed above. It will be clearly seen that by this procedure, when the operation is completed, all wounded surfaces are extraperitoneal, so that there is no danger of intraperitoneal hemorrhage, sepsis, or adhesions. There will usually be no ligatures or sutures left in the peritoneal cavity except the two on the ovarian arteries; it is possible that in some instances a small catgut suture may be necessary to close connective-tissue spaces on either side caused by removal of the ovaries and tubes. The cavity of the capsule and the vagina may be, as conditions may indicate, loosely or tightly tamponed with iodoform gauze, so that we have double drainage, and may finally cleanse or disinfect the sac cavity and vagina by passing a stream of sterilized water or germicidal solution from above out through the vulva. The same technique may be followed in removal of other forms of uterine myomata, and I believe will tend to lessen the mortality in the practice of the average surgeon, because it is more easily and more rapidly completed. I am sure any one who has done much vaginal hysterectomy will experience less difficulty in separating the vagina from the cervix and in ligating or clamping the uterine arteries from below, and I believe it is the correct treatment even if afterward the removal of the myomatous uterus is completed after the usual abdominal methods. Experienced operators may speedily ligate the uterine arteries from above, but with the average gynæcologist the procedure is protracted and dangerous. I do not believe it wise to leave the lower part of the cervix in these operations, for it serves no good purpose, and may possibly cause subsequent trouble.

The technique of Dr. Pryor's operation in total hysterectomy for intraligamentous myomata, where the tumor unfolds but one broad ligament, will be more rapid and more successful by adopting the vagino-abdominal method, and then ligating both ovarian arteries before dividing the broad ligament on the free side so as to enucleate from below. But I have seen several cases where both broad ligaments were separated and the tumor so tightly wedged in the pelvis that it was impossible to reach the uterine arteries from above until after extensive enucleation and excessive hemorrhage; the dangerous hemorrhage may now be controlled if the uterine arteries are ligated *per vaginam*.

In cases where the broad ligament on one side is free it may be incised at its upper border and separated to the vaginal opening, and the uterus and tumors enucleated from below and the capsule fixed in the abdominal incision; or, if the operator objects to the extraperitoneal treatment of the capsule, it may be sutured and left in the abdominal cavity. The same technique may, in a degree, be possible in some cases where the tumors have involved both broad ligaments.

In Dr. Senn's operation for uterine myomata, while the capsule is fixed in the abdominal wound the uterine arteries are ligated at the bottom of the sac, and there is no drainage through the vagina; hence suppuration is more extensive and convalescence prolonged.

While I have not seen a description of vagino-

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abdominal hysterectomy where the above technique has been carried out, it may be that others have performed the same operation; and I feel sure that when it is given a fair trial, it will in many cases meet with the approval of successful operators.—*Amer. Gynæcological and Obstetrical Journal.*

The Use of Dry Heat of High Temperature in the Treatment of Chronic Joint Affections.

By William E. Wirt, A. M., M. D., Ph. D.

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Read Before the American Orthopedic Association.

Mr. President: Last October I presented to the Mississippi Valley Medical Association an informal report of the the use of dry heat of high temperature in the treatment of chronic joint affections. I had at that time been using this method of treatment for about one year. Notice of this informal report was given in several of the medical journals throughout the United States. As a result of this informal report, I received during the past year a number of letters asking me to direct the writers to a full report of my method of using the heat. These letters I answered in person; but, as no full report had been made, it required in each case that a complete description be made of my apparatus. That my article had attracted some little attention seemed to me reason enough for my presenting at this time a full description of the apparatus I am using.

Medical writings indicate that heat and cold have been used for many ages to allay all forms of inflammation. The effect of these agents is determined, firstly, by their influence in modifying the circulation of the blood; secondly, by their power to increase the activity of the lymphatic circulation; thirdly, by their modification of the secretion, and fourthly, in certain instances, by the apparent influence on the nerve supply to a part.

In the effort to allay inflammation by heat, this agent has been used of nearly every range of the thermometer, from that of the blood to that of the white heat of the Paquelin cautery. The low temperatures are applied for prolonged periods of time, while the higher temperatures are used only momentarily.

The method I am describing contemplates the prolonged use of a high temperature—say 250°–300° F.—for a period of one-half to one and one-half hours. While the prolonged use of low temperatures and the momentary use of high temperatures each modify the circulation, and the latter probably the nerve supply, they neither of them markedly influence the secretions, and but little, if any, do they increase the lymphatic circulation.

On the other hand, the prolonged use of high temperatures, while in a like manner it influences the blood and nerve supply, it, in addition, enormously increases the secretions, and, further, it is my belief (though I am not able to demonstrate it) that the lymphatic circulation is enormously increased thereby, rapidly taking up the deposits which have taken place in the diseased joint, which in a measure accounts for the greater freedom of motion noticeable in these joints after the prolonged use of high temperatures.

Physics and physiology teach us that while the body can only bear a temperature of about 160° in a saturated atmosphere, yet if the air is kept very dry the body can stand a temperature of several hundred degrees Fahrenheit for part or even a whole hour. To give exact data, it is stated that a man has endured for half an hour a temperature of over 600° F. in a drying oven.

The apparatus before you, which, by the way, I have had made for a Boston surgeon, consists of a copper cylinder 12½ inches long and 10 inches in diameter. Fitting into each end of the cylinder is a wooden ring or disc, 1 inch wide by 1 inch thick. The wooden rings are secured in the ends of the cylinder by eight short screws passing from the outside through the cylinder into the rings. At each end of the cylinder is a hood which encircles the limb, and is drawn tight by means of puckering strings. The hood is made of double-coated rubber cloth, and is attached to the cylinder by being nailed to the wooden rings, the extreme end of the hood being held in place by a wire band. On each side of the cylinder, diametrically opposed, are two or three holes ½ inch in diameter. The purpose of these holes is to allow a rapid change of air in the cylinder. In using these cylinders I have seen the air come out of these holes with such force as to put out a lighted match. The cylinder is supported horizontally in a wooden frame, so that the lower surface of the cylinder is 18 inches from the floor, or about the height of an average chair.

I have applied heat by means of oil, gasoline or alcohol lamps, the gas jet, and the mixed gas and air jet, which is the Bunsen burner; the latter

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is probably the most convenient. The heat should not be turned on too rapidly at first, as the patient's endurance is greater if the heat is applied gradually.

In using this method for the knee I apply a layer of cotton to the back of the limb in the popliteal region, securing it in place by loosely tied tapes. This is done for two reasons—in the first place, it will equalize the temperature, as undoubtedly the lower part of the cylinder is much hotter than the upper, and, secondly, I found that the profuse perspiration resulting from the high temperature caused a dropping of fluid to the bottom of the cylinder, where it was instantly turned into steam, and this steam would immediately scald the limb. The limb, being thus protected by the cotton, is inserted into the cylinder until the knee is in the center, the heel placed on a chair high enough to keep the calf from touching, if possible, even the wooden rings, which, though they do not ordinarily burn, may get uncomfortably warm. The hoods are drawn tightly around the limb, and at the start rubber corks are inserted in the holes in the cylinder, but are withdrawn when the cylinder is thoroughly heated. The heat is then applied to the cylinder and is carried up to the limit of endurance of the patient, which varies from 250° to 300°, and is kept at this point for an hour or more. One patient of mine could stand a temperature of 290° for over an hour. In a case I recently treated I carried the temperature to the extreme point of 360° F. for a period of nearly five minutes.

The thermometer I use is a laboratory thermometer with a scale that will register up to 450° F. I have found it most satisfactory to allow the patient to hold one end of the thermometer, while the bulb end is held within the cylinder alongside the knee against the cotton. Care should be taken not to touch the limb with the thermometer, for if this happens the limb will be blistered; this can easily be prevented by the proper use of the cotton.

The number and size of the holes in this cylinder are not sufficient to give perfect ventilation, so that, after twenty or more minutes, the air in the cylinder becomes so moist from the profuse perspiration that I find it advantageous to loosen the hoods for about a minute at a time to allow a free exchange of air. This lowers the temperature 20° or 30°, but the cylinder is so hot that it quickly returns to its former range. The effect of such a high temperature is to enormously increase the perspiration from the local part, to increase perspiration over the whole body, to increase the amount of blood to the part, or at least the surface circulation, to increase the lymphatic circulation, to relieve pain and to increase mobility in the joint. The relief of pain and the increased motility last for some hours after the application of the heat.

To make it a little plainer what these effects are I will go somewhat into detail. In regard to the perspiration of the local part, I would say that it is so great that, if not absorbed by the under layer of cotton, it will roll off rapidly in drops, and the whole amount evaporated in an hour must be considerable. The circulation of the blood is also greatly increased, and is very apparent on the surface, the part being reddened and the arterioles dilated, as is seen in the blush of an erysipelas. The pain and stiffmess are greatly relieved. Take, for instance, an old case of gonorrhœal rheumatism, or rheumatoid arthritism, and we will find that at all times there is more or less pain, with considerable stiffness, and the motions of the joint are accompanied with creaking sounds. At times there are exacerbations, when all these symptoms are considerably increased. It has been my experience in the use of this apparatus that very soon after the temperature in the cylinder is raised to 250° the patient feels entirely relieved of the pain, and on removing the limb from the apparatus after the treatment it is found that the mobility of the joint is considerably increased and the creaking sounds have greatly diminished or entirely disappeared. The marked effect of the heat is especially noticeable at the time of an exacerbation, when the difference in the condition of the joint before and after the treatment is considerable.

To give you an idea of how hot the inside of the cylinder becomes, I would state that the cotton covering the popiliteal space becomes of a brown, hue, and the index of the thermometer, which is of paper and inside the glass tube, also becomes singed to a brown color. I have used this apparatus in cases of simple rheumatism, rheumatoid arthritis, gonorrhœal rheumatism and simple synovitis. I have not as yet used this method in cases of tubercular joint disease, fearing that the resolution which might be brought about might cause a general tuberculosis instead of the local disease.

At a meeting of the Cleveland Medical Society a month or two ago, Dr. Woodward reported an

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old case of gonorrhœal rheumatism of some years standing in a man about forty years of age. The doctor stated that many physicians had given advice in the case as to treatment, but up to that time very little benefit had been derived from the suggestions made; he asked for further advice as treatment. At that time I suggested that my apparatus be tried, which suggestion has since been followed out. On June 16th, in the presence of the house staff of the Marine Hospital, I kept the above patient's left knee in this apparatus for forty minutes. The temperature ranged for the most of the time from 310° to 340° F., reaching at one time the extreme range of 360° F., and remaining there for nearly five minutes. After the treatment the patient said that all the pain had left the joint; the motion of the joint was freer, and all creaking had disappeared. The house doctor tells me that since then they have been continuing the use of the apparatus in his case; that on Saturday night, prior to last Sunday's storm, the patient complained of his knee feeling much worse, stating his belief that a storm was coming, and requesting that the apparatus be used. This was done, and after the treatment the patient stated that the pain was all gone and "that he felt all right again." The doctor tells me that the patient is receiving much benefit from the apparatus and is desirous of leaving the hospital.

We all realize how difficult it is to give relief in such conditions as rheumatoid arthritis and gonorrhœal rheumatism. Yet I have had patients suffering from these conditions claim that the pain was relieved as soon as a considerable heat was attained, and that the mobility and the pain were both benefited for some hours. Anything that will give relief to these patients will be hailed with delight by the profession at large, and especially by those suffering from these complaints. *The International Journal of Surgery.*

The Use of Strychnine in Pulmonary Consumption.

Dr. Thomas J. Mays (J. M. C., 1868), of Philadelphia (*Amer. Med. Surg. Bulletin, Denver Med. Times*), prescribes this drug in rapidly increasing doses to the limit of its stimulant effect and just short of tetanism. He begins with a moderately small dose, as 1-30 grain four times a day. After continuing this dose for one week. it is increased to 1-24 grain for another week, 1-20 grain the third week, 1-15 grain the fourth, and so on, until nervousness, restlessness and twitching—the signs of beginning strychnine intoxication—are observed, which is usually not before 1-12 or ⅛ grain four or five times a day, or even a larger dose, is reached. This maximum dose should be reduced slightly (say from ⅛ to 1-16 grain) and then gradually attained again, thus diminished and increased for an indefinite period, keeping the strychnine stimulus up to the highest level just short of tetanus and paralysis. All the signs and symptoms of the disease will, as a rule, diminish or disappear under such treatment, combined with the usual restorative measures, such as regular rest, good food, hypophosphates, cod liver oil, etc. In confirmation of his theory the writer cites a very unfavorable case of phthisis florida reported by Dr. William Pepper, in which the patient has apparently entirely recovered under hypodermic injections of strychnine nitrate in combination with atropine sulphate and the double chloride of gold and sodium. The importance of the neurotic element as a predisposing cause of pulmonary phthisis can hardly be over-estimated, and the systematic administration of strychnine, as advocated by Dr. Mays, deserves a high place in therapy.—*Dunglison's College and Clinical Record.*

Cholelithiasis.

By A. M. Cartledge, M. D.

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Read at Glenn Springs, Ky., July 22d, 1896, before the Northeastern Kentucky Medical Association.

It is not my purpose in this short paper to discuss all the phenomena of gall-stone formation, but to briefly call attention to the more salient features of the subject; to the recognition of the condition and to the differential diagnosis.

The importance of this subject seems to be just dawning upon the profession, and we feel sure that its history as written at the close of the next decade will present one of the most brilliant achievements in surgery. When we consider that on an average probably one of every ten persons is afflicted with gall-stones, we are in a position to appreciate the great frequency of pathologic processes in the biliary ducts, including the gall-bladder.

The old are most prone to gall stones, also those the subject of pre-existing disease in this region, such as cancer of the liver and adjacent structures. Women are more prone than men

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in the proportion of five to two. Tight lacing has been ascribed as a cause of this, but sedentary occupation with its attending torpor of secretion and excretion is probably as much responsible for this difference.

The essential pathology of gall stone formation consists in the altered condition of the mucous membrane of the bile passages. Once there is destruction of the epithelium, as from extension of inflammatory processes in the duodenum, or invasion of the ducts by the colon bacillus, or circulatory disturbances from the pressure of growths or mechanically, the conditions are at once created for a deposit cholesterin, carbonate of lime and bile pigment. The nucleus of such deposits, as well as much of the component mass, often consist of dead epithelial cells and inspissed mucus from the pre-existing catarrhal inflammation.

The well-known tendency of Americans to so-called gastric and duodenal cartarrh, induced by peculiarities of living, such as rapid eating and exertion at a time when large quantities of food are still in the process of digestion, would seem to render them especially prone to this affection.

In detecting the existence of gall stones, too much stress must not be laid upon the presence or absence of jaundice. As a matter of fact most of the cases of gall stones that apply to physicians for relief have never had jaundice; hence, in the past, received treatment for something else, the true nature of the disease never being recognized. Severe pain in the right hypochondrium and epigastrium, followed by jaundice, which usually passes away in a few days, marks the passage of a gall stone so plainly that no diagnostic skill is required to surmise the nature of the condition. Or, again, severe sudden pain followed by continuous jaundice usually indicates an impacted calculus in the common bile duct. These are matters of common observation, and need not be dwelt upon in dealing with the symptomatology of the disease. The point in recognition of gall stones that deserves most consideration is, that such symptoms as have already been enumerated probably do not evidence more than one-tenth the number of cases of gall stones that apply to us for treatment. Many patients suffer for years with gall stones in the gall bladder that are too large to pass the cystic duct; hence, never become engaged in the common duct to produce jaundice. Such cases are most often characterized by attacks of pain, usually requiring several hours or days to attain it greatest severity, with a variable period of persistence, followed by complete relief, the pain subsiding rather suddenly. The explanation of such attacks of pain is to be found in the occlusion of the cystic or gall bladder duct by the stone or stones and the distension of the gall bladder with mucus; as soon as the passage is cleaned by shifting of the stones, the result of the paroxymal efforts of the muscular gall bladder, the muscus escapes into the common duct and quiet ensues until another attack. All the pathology in these cases is confined to the gall bladder and its duct, and from the ease with which the condition may be dealt with, it is especially important to recognize it before the graver complications of common duct obstruction occur. During the attacks of cystic duct obstruction, a careful search will usually reveal the enlarged and distended gall bladder. If we would carefully examine these patients instead of following the routine practice of calling it an attack of colic or indigestion and giving a dose of morphine, we would often establish a diagnosis of gall stones in the gall bladder at a time when operation would give the most brilliant resul.s, and at a time when such treatment may be truthfully said to be preventive of the dangers of gall stones.

Another and very frequent form of this disease is where the stones are very small and very numerous. I have removed more than fourteen hundred distinct but small calculi from the gall bladder. In such cases one or more stones are passed every day or every few days; the cystic duct being much smaller than the common duct the little stones usually pass very easily without producing jaundice. However, they give rise to a slight pain and feeling of discomfort, especially in the epigastric region, which lasts from a few minutes to an hour or more. I believe that such as these have taken most of the pepsin and other lauded digestive agents that have been made.

To recapitulate this part of the subject: We recognize gall stones attended with sudden severe pain and jaundice, or obstruction either temporary or permanent of the common duct.

2d. Calculi confined to the gall bladder and cystic duct attended with periodical pain without jaundice, and characterized by a tumor composed of the distended gall bladder at the usual situation. Such cystic accumulations vary in size from a hen's egg to that of the head. Occasionally the cystic duct obstruction fails to be re-

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lieved, and the greatly distended gall bladder may rupture, or what is more common, inflame and become adherent to adjacent organs or the anterior parieties.

3d. Cases characterized by slight pain in the epigastrium of varying intensity and duration, but without tumor or jaundice.

Differential diagnosis in cases characterized by jaundice. From cancer of the bile ducts, duodenum and adjacent structures. By slow onset of symptoms in cancer with slow approach of pain and jaundice, progressive emaciation and cachexia. From catarrhal inflammation of the bile ducts: By absence of pain in latter with history of gastric disturbances. From abscess of the liver and surrounding structures: The character of pain and the existence of fever will usually suffice to make a diagnosis; also the relation as to time between the onset of pain and the appearance of jaundice. In certain cases, however, nothing but an exploration will decide the point at issue.

The cases characterized by a tumor of the gall bladder are to be differentiated from, first, displacement with fixation of the right kidney. I mention this first for the reason that I have seen two cases, both females, where the right kidney was displaced forward, upward and inward, just in the situation of the enlarged gall bladder; in both cases the kidneys were fixed by adhesions; both were subject to attacks of kidney pain, probably from twisting of the pedicle. The diagnosis of distended gall bladder was made in both, only to be disproved by exploration. Of course, if the tumor moved freely with movements of the diaphragm and liver on respiration, the probability of such an enlargement being the gall bladder would be almost certain; but, oftimes, the gall bladder is bound in such a way by adhesions as to prevent its motion with respiration.

Abnormally high inflammatory mass about the appendix might be mistaken for the gall bladder. The history of the case, with careful examination of the upper margin of the enlargement, usually suffice for a differentiation.

Abdominal neoplasms, such as mesenteric, omental and intestinal tumors can usually be differentiated from the enlarged gall bladder by the greater range of motion they possess. Often, however, exploration is the only sure means of determining.

Cases of gall stones without tumor and without jaundice are to be differentiated from colic, attacks of indigestion, and so-called gastralgia: From the first, colic in this region of the abdomen could only be gastric colic, and that would be most severe in the left hypochondrium and epigastrium, whereas in the passage of small gall stones the right hypochondriac and epigastric regions are the especial points of pain.

From indigestion the differential points must be left with the physician, guided by a careful observation and investigation of all features of the case.

As to gastralgia, it seems to be a nice musical term, which, if it expresses anything, expresses our ignorance of some real lesion about the stomach or adjacent organs.

In competent hands the surgery of the gall bladder is to-day the most satisfactory in its results of any in the abdomen. And when we reflect how often it could be made preventive of the dread consequences of calculous disease, it should urge us to a due appreciation of the great advantages to be derived from a recognition of gall stones, if possible, before jaundice has become a symptom.—*The General Practitioner.*

The Survival of the "Fallen Palate."

The present scientific methods of preparing medicines, and the accuracy with which we are enabled to dispense them, are apt to make us forget that, in the not very distant past, the methods were so indefinite and crude that we wonder at some of the results obtained with—or, perhaps, in spite of—such medication.

The masses still adhere to many of their old methods of "healing," but not to the extent that was formerly the case. We can all remember that not so long ago goose-grease rubbed over the forehead, nose and chest was the *sine qua non* remedy for a "cold," and that its therapeutic value was equalled only by that of French tallow —just exactly why the French preparation was considered to have superior merits in its effect upon the Schneiderian membrane has never been satisfactorily explained.

The older practitioners will recall the fact that "sheep saffron" was considered an effective agent for developing the eruption of the exanthemas, especially in measles, the agent referred to being a decoction of the dung of the sheep. Cow dung was considered a useful, if not savory, poultice, and the human urine was frequently used as a wash in skin diseases. The writer recalls an instance in his hospital experience, in which a negro brought his son, who was suffering from phlyctenular conjunctivitis, for treatment. By questioning,

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it was elicited that among the various remedies which the parent had tried in this case, was a lotion of his own urine. The frequency of the gonococcal infection of urine would suggest that it would be difficult to find a more dangerous agent to apply to such an absorbing membrane as the conjunctiva.

Mint tea and catnip tea, especially the latter, still hold their own among the midwives in all forms of infantile diseases. Rattlesnake oil was extensively used among the negroes for rubbing rheumatic joints, and this was not the only virtue attributed to this ophidian, as its shed skin was supposed to protect its wearer from all the machinations of the Evil One.

Many will be pleased to learn that the obnoxious and, in many parts of the South, ubiquitous roach is not without its medicinal qualities. Olive oil, saturated with roaches, is considered in some sections as a valuable remedy for earache, and the blood obtained from a certain beetle by taking off its head being also supposed to have valuable properties in this direction. Whisky saturated with roaches was considered invaluable in tetanus, and the medicinal value of this remedy could be increased by applying the mashed insects to the injured spot.

It must not be forgotten, on the other hand, that some of our most valued remedies were used empirically by ignorant natives. We are all familiar with the history of the introduction of the cinchona barks into medicine. It is interesting to note that the viburnum, which is now used so extensively in uterine affections, was used nearly a century ago by the negroes of the South, under the name of "black haw," for arresting uterine hemorrhages and for correcting menstrual disorders.

The creoles of Louisiana have used for many years the inner lining of the gizzard of the chicken for digestive ailments, and this preparation has recently gained considerable popularity under the name of "ingluvin."

While many of the self-limited diseases were treated with the most heroic methods, a number of pathological conditions which deserved the most careful attention were absolutely neglected. To this category belongs the "running ear." The suppuration from this organ was supposed to be the elimination of "bad humor" from the system, and should therefore not be interfered with, and many of our most intractable cases of deafness and most serious mastoid complications owe their origin to this pernicious theory, which was countenanced, if not supported, by many of the physicians of the period.

Green oil appears to be considered a panacea in certain sections for all forms of ear diseases, whether for a boil of the external canal or mastoid disease. Very few patients visiting the clinics of New Orleans, who apply for ear treatment, have escaped a more or less prolonged trial of this agent. Even patients in the higher order of life frequently state that this preparation has been prescribed for them by their family physician. In a recent case in which this was prescribed the patient was suffering from acute salpingitis.

A malady which seems to have survived the encroachment of civilization and to have clung to the lower classes is the "fallen palate." In the hospitals of New Orleans, if a patient has any form of throat disease, whether a specific ulceration, a simple tonsilitis or a fatal epithelioma, all that ails him is that his "palate is down," and the patient firmly believes that if you can simply "put it up" his health will be immediately restored.

The treatment of this affection is also interesting. One method is to place pepper and salt into a spoon, and with this "push the palate up," and the patient is much disappointed if the palate does not remain in this corrected position. A more efficacious method, however, is to pull the hair at the crown of the head in order to pull up the palate, and, if it does not remain "up," the next proceeding is to tie the hair after the palate has been pulled up. Whenever an old negro enters a Southern hospital with a cylindrical bunch of wool projecting like a monolith above his head it is a pathognomic symptom that his "palate is down."

While many readers will say that most of these methods are but harmless, practical experience shows the fallacy of this argument. I have seen cases in which the whole soft palate has been destroyed by a specific process, leaving the patient for life with defective vocal and eating organs, when the disease could have been promptly arrested had the patient not wasted valuable time in treating his "fallen palate." Green oil may be an innocent agent, but when its use consumes the important time which allows an acute inflammation of the middle ear to change to a chronic suppurative process which endangers the hearing, and even the life of the patient, it can hardly be considered a harmless remedial agent.

Those of our profession whose daily practice in

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the free clinics and among the poor and destitute of our larger cities brings them in contact with the ignorant masses should not simply smile at their superstition and ignorance, but should point out to these unfortunates the danger of ignorant and even pernicious medication. In this way only can the light of human intelligence spread among the illiterate masses, and in this way only can we eliminate the evils of such practices.—*The Laryngoscope.*

Is Constipation Ever a Disease?

Constipation has been very properly regarded by medical writers as a symptom of disease of the alimentary canal, or sometimes of the nervous system.

The question arises, however, from clinical experience as to whether it may not at times be a disease *per se*. This is suggested by cases such as the following, which are by no means infrequent: A person gives a history of repeated attacks of indigestion with the ordinary symptoms of diarrhœa, nausea, pain in the abdomen, etc., preceded a day or so by sluggishness of the bowels or, perhaps, entire cessation of peristalsis. It has usually been said that the preliminary constipation was the first symptom of irritation of the alimentary canal. Attacks of this kind are caused by eating articles usually classed as indigestible, by overeating, or by eating articles which an idiosyncracy renders improper. The treatment most used is to cleanse the alimentary canal at once by free purgation, this aiding the natural tendency, and then to administer emollients and antiseptics.

At the same time we know that, if constipation arises in the course of organic disease of the spine, for instance, after a day or two it is followed, as a rule, by free diarrhœa and, in general, symptoms much similar to those which accompany the disturbances caused by faulty nutrition, as noted above. Furthermore, observation shows that if *cascara sagrada*, a true tonic laxative, be used in small doses by the person predisposed to the attacks of indigestion, so as to insure free movement of the bowels every day, the attacks will not occur, or, at least, very rarely.

To such an extent is this true that some patients can partake with impunity of the article for which they have an idiosyncracy, provided they use the laxative simultaneously.

These facts seem to render the conclusion clear that constipation may frequently be the primary disease, while the diarrhœa, pain, etc., are merely incident to the irritation caused by the retained feces.

The further conclusion would also seem inevitable, though by no means novel, that certain articles of diet are of themselves directly constipating and produce more or less serious disturbance of indigestion, unless accompanied by a laxative drug or article of food which overcomes the constipating tendency. If the above method of reasoning is correct, and the conclusions are properly drawn, our cases of recurring dyspepsia should be restudied to see if any of them may not be permanently relieved by the method suggested.—*Editorial, Cleveland Jour. of Medicine.*

Pemphigus Vulgaris.

The last issue of the Virginia *Medical Semi-Monthly* contains the report of a case of pemphigus vulgaris by Dr. Hugh W. Henry. The paper is an exceedingly interesting one, both on account of the comparative rarity of the disease and the fact of its occurrence during an epidemic of small-pox, which latter fact may well occasion the query as to whether or not there is during epidemics of small-pox special tendency to eruptive forms of cutaneous diseases as there is to sore throat in epidemics of diphtheria and scarlet fever.

In the case referred to, the patient, previously in good health, five weeks after a vaccination, which took quite severely, developed a papular eruption, which quickly became vesicular, first on his face and neck, and which later involved the entire cutaneous and mucous surfaces as well, being especially severe in flexures of his limbs and on points of pressure, as on elbows and spines of scapulæ, where bullæ were formed, some being an inch in diameter.

The eruption attained its acme in about two weeks after its appearance, from which time it gradually subsided, being characterized, however, during its whole course by the appearance of successive crops of vesicles, so that up to, and even during, convalesence it could be seen in all stages, from a newly formed vesicle to the reddish discoloration left at seat of those which had dried up and desquamated. No tendency to suppuration was observed except where the vesicles were ruptured from the friction of his clothes or otherwise irritated.

Among the peculiarities which may be noted are, the appearance of the vesicle rising abruptly

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from the healthy skin, like blisters produced by drops of scalding water, the involvement of the mucous as well as the cutaneous surface and the existence in many of the vesicles of a plate of organized lymph covering the bottom and attached by margin or center to the skin beneath.

The constitutional symptoms were slight, apart from the discomfort occasioned by the eruption, and consisted, chiefly, in some moderate pyrexia during the greatest severity of the eruption and a nervous depression disproportionate to the physical discomfort and foreign to the patient's norma condition.—*Charlotte Med. Jour.*

The Spleen in Infectious Diseases.

In a contribution to the study of this subject F. Bezancon (*These de Paris*, 1895) states that infections induce in the spleen two kinds of alteration, the first direct structural changes, less the effect of a lesion than of functional hyperactivity. In this class must be placed hypertrophy of the malpighian corpuscles, direct or indirect multiplication of lymphocytes or their transformation into mono or poly-nuclear leucocytes, and proliferation of the elements of the pulp. In the second kind of alteration there are true lesions, especially of a degenerative nature, involving the corpuscle as well as the pulp, and causing necrosis of cells or areas of cells. These lesions are preceded by the appearance in the pulp and blood-capillaries of large mononuclear or macrophagous leucocytes containing in their protoplasm products of cellular degeneration, as, for instance, small leucocytes, nuclear *debris*, hæmatins, and pigment. This may be seen in varying degrees in all local and general infections, bacteria being absent in the former and present in the latter, where they form colonies in the pulp, free or inclosed in phagocytes. From these lesions the role of the spleen in defending the organism against infection may easily be deduced, though no precise points can be obtained by experimental pathology and the study of animals deprived of the spleen. The objective study of the human spleen at various stages of infections shows much more plainly its protective influence. The great predominance of phenomena of leucocyte proliferation over direct local phagocytosis demonstrates that the organ in infectious diseases serves less to destroy the bacteria on the spot than to produce defensive elements to be carried to and utilized in the parts of the economy affected by the infectious process. The want of knowledge on the semeiology of the spleen, entirely limited to splenic hypertrophy, makes it easy to understand why this evolution is obscure. This symptom, however, is of so much value that it frequently constitutes a decisive argument in favor of an infectious syndroma.—*Universal Medical Journal.*

Diet in Ulcer of the Stomach.

The dietetic treatment of ulcer of the stomach, says *Gaillard's Medical Journal*, is of the greatest importance. Few diseases, in fact, show the results of properly regulated diet more decidedly. A diet should be chosen which is bland and unirritating, which does not excite the acid secretions of the stomach, which remains but a short time in the stomach, which does not tend to cause extension and peristaltic action, and which does not tend to undergo rapid fermentation. At the outset of treatment it is usually wise to employ rectal feeding for a few days. Food in small quantities may then be administered by the stomach.

The best diet in most cases is unquestionably milk. Its value has been proved beyond doubt. If the patient will tolerate it the milk should be thoroughly peptonized. It should be administered at frequent intervals, and in not too large quantities. Four ounces every two hours are usually sufficient. If the milk is not tolerated or does not agree, whey may be administered for a time, but it should be remembered that it contains but little nutritive material. Buttermilk may sometimes be substituted for milk, but the acid in some cases causes too much irritation. Milk diet should not be abandoned until it has been thoroughly tested, and every preparation given adequate trial. If a milk diet is impossible, scraped raw meat should be tried. This may be given alone, lightly seasoned, or it may be given in broth. Expressed beef juice is an admirable article of diet in such cases, and sometimes proves of the utmost value.

Weak tea and coffee may be given in small amounts, but alcohol is contra-indicated. If hemorrhage occurs, the stomach should receive complete rest for several days, and nutrition should be maintained by means of nutritive enemata. A rigidly restricted diet should be persisted in for at least a week after all symptoms have disappeared, and the return to an ordinary diet should be made slowly and with great caution.

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Early Diagnosis of Bright's Disease.

By P. William Nathan, M. D., San Francisco.

Penyold (*Munch. Med. Wochenschrift*, 1893, No. 42) found on examining the urine of forty healthy persons (mainly soldiers) that (with the usual tests) it contained no albumen and no red blood corpuscles. After bodily exertion, however, a trace of albumen was found in 12 per cent., and isolated but distinct hyaline, granular and epithelial casts were found in the urine after the use of the centrifuge in 16 per cent.; besides, the white blood corpuscles and epithelial cells, which are present in the sediment of normal urine only in very small quantities, were found to be abundant. Red blood corpuscles were never present. It was found that certain food-stuffs, such as coffee, tea, horseradish, mustard and asparagus, when taken in quantities, were capable of producing renal irritation. Thus in persons whose urine had previously been found normal, the ingestion of these substances was followed by the appearance of red and white blood corpuscles and epithelial cells. From this he concludes that, inasmuch as the single ingestion of any of the above mentioned substances can produce slight and evanescent irritation of the kidney, their frequent, excessive or daily ingestion can produce, in those predisposed, a permanent lesion of this organ.

Important from a diagnostic point of view is the fact that in individuals suffering from nephritis, who previous to examination have refrained from bodily exertion or the taking of these food-stuffs, especially alcohol, capable of irritating the kidneys, albumen may be completely absent from the urine. Hence the importance of frequent examination of the urine (chemically and with the microscope) continued over long periods becomes apparent.

M. Germain Sée (*Bull. l'Acad. Med.*, 1893) emphasizes the fact that albumen will be found in nearly every case of nephritis if the urine is carefully and frequently examined. That there are, however, cases extremely rare, at most, in which it may be absent for a long time he, as well as Senator (*Die Erkrankunger der Niere-Handb. der Spec. Path. u. There. her. von Nothnagle*) and most authors admit. However, the symptom-complex said by Dieulafoy to be indicative of the little Bright's disease (*le petit mal de Bright*), auditory distubance, various paræsthesias, frequent micturition without polyuria, sensation of cold, Sée does not consider characteristic, inasmuch as they may be present in a number of nervous disorders.

For the diagnosis he recommends testing the urine as to its toxic properties according to Bouchard. An apparently normal urine may have completely lost its toxic character, and as this would denote a retention of the urotoxins within the body, a dangerous condition would be indicated. According to Sée, there is in this condition faulty alimentary absorption, and due to this increased formation of nitrogen in the intestine, and at the same time diminished elimination of urea by the kidneys. Consequently there is retention of urea within the tissue. The importance of the quantitative analysis of the urea, in this, as well as in other forms of nephritis, therefore needs no comment. The failure to obtain definite results in examining urine for albumen, I think, is due, in most cases, to the insufficiency of the tests used for its detection, and the lack of care with which they are performed. The heat and nitric acid test, which is in most common use, is unreliable at best, and Heller's test, less frequently used, is apt to mislead those who are not experienced in urinalysis. Ott (*Deut. Arch. f. klin. med.*, Bd. LIII.) tested the relative merits of the sixteen reagents now in use for the detection of albumen. He found the reagents of Spiegler to be the most reliable and sensitive.

This test is as follows (*Spiegler Wien. klin. Wochensch.*, 1891): The reagent consists of hydrarg. bichloral 8.0, acid tartar 4.0, aqua destill. 200.0, sacch. alb. 20.0. The addition of sugar is for the purpose of raising the sp. gr., as the reagent is used similarly to the nitric acid in Heller's test. A test tube is half filled with the reagent, and the urine, after precipitating the carbonate with acetic acid and if necessary filtered, is poured drop by drop down the side of the tube so as to form a layer over the contained fluid without mixing with it. In the presence of albumen a sharply-defined whitish ring is formed at the boundary line between the two fluids. The reaction is also to be obtained in urine which contains bacteria; here the ring is readily distinguished in the general cloudiness. Mucin, which is not entirely precipitated by acetic acid, and propepton (not pepton) also produce the reaction. It is extremely delicate, showing the presence of one part of albumen in 150,000, and, if the fluids be allowed to stand for a moment, of one part in 250,000. Because of the instability of the reagent, Spiegler has recently recommended the

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substitution of glycerin for the sugar, which removes this objection, and in no way impairs the delicacy of the test. The salycil sulphate is almost equally as good, is easy of execution, and has the advantage of differentiating between the serum albumen and pepton or albuminose. A concentrated solution of salycil sulphate in water gives, with acid and albuminous urine, either a cloudiness or precipitate, according to the amount of albumen present. If the urine contains pepton or albuminose it clears on heating, becoming cloudy again on cooling. In order that the test should be successful the urine must be acid; if, therefore, it is not so naturally, acetic acid should be added.—*Pacific Medical Journal.*

The Lithæmic Throat.

By J. W. Gaines, M. D.

I wish to say a few words about a throat which we all have seen and treated, but which we may not always fully appreciate. Our patients come to us with the complaint that, although they are not conscious that they have taken cold, yet their throats are sore. Careful inquiry develops the fact that they have been under unusual mental strain during the few days preceding the visit. Or it may be that they have recently attended several dinners and to the postprandial cigar they attribute their condition. Or it will become apparent that their failure in physical and mental vigor has been gradual, but within a few days unusual demands have been made upon them, with the result that prostration has supervened. With all the various symptoms which may be present, total absence of nasal symptoms will be remarked. They tell us that swallowing is painful and difficult; there is a stiffness of the throat, it feels dry and rough. The discomfort, together with the physical prostration, causes them to imagine that they are seized with some serious disease—generally it is diphtheria.

The physical examination reveals practically no general physical signs. The pulse may be slightly accelerated, the temperature a little elevated, but as frequently both are normal. Upon inspection we find generally one or more of the following conditions present:

1. Throat uniformly reddened and of a glazed appearance.

2. The condition formerly known as granular pharyngitis.

3. Some œdema of soft palate and pillars of fauces.

4. Blood vessels of throat dilated and tortuous.

5. A tenaceous, glairy secretion, generally scanty, covering the posterior wall of the pharynx.

6. The tongue coated or reddened with prominent papillæ.

Posterior rhinoscopic investigation shows that the naso-pharynx participates in the diseased condition. The remarkable fact which impresses itself upon the observer is, that the physical signs are insignificant when we consider the discomfort to which the underlying anatomical structures are subjected.—*Langsdale's Lancet.*

For insurance purposes, all syphilitics are classed in the following groups by Dr. P. H. McLaren, in the *Edinburg Medical Journal*, without reference to general mortality statistics: (1) If a man has been properly treated, the probabilities are that, provided he is of good constitution and habits, no complications will arise, and the expectation would be that he will go through life with scarcely more appreciable risk than one who has never had the disease. (2) If proposer has not undergone a sufficient course of treatment, and applies for insurance before the expiration of six years, the period at which the disease normally terminates, and yet is not suffering from any tertiary manifestations, and is otherwise satisfactory, the chances are that he may escape the malign form; but ten per cent. extra should be charged until the expiration of the six years, and the case then reconsidered. (3) When tertiary symptoms have developed, the proposal should be absolutely declined, because, while treatment may temporarily remove these, it cannot eradicate the tendency to recurrence; and clinical observation has shown that those so affected rarely live beyond a term of ten years, and often much less when palliative treatment is not carried out. While his personal experience is almost absolutely favorable regarding the prognosis of the cases included in Class 1, it is questionable when the cases are looked at, with the interests of the offices perfectly safeguarded, if they should not practically be treated in the same way as those in Class 2.—*Medical and Surgical Reporter.*

Dr. Kempster has returned from rusticating in the North.

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Original Articles.

Gunshot Wounds of the Kidney—Report of Two Cases.

By Dr. Chas. H. Lemon,

Surgeon to St. Mary's Hospital, Milwaukee.

Gunshot wounds of the kidney, the history of more than thirty years demonstrates, are among the rarer lesions that come under the surgeon's care. These organs, by reason of their deep location, escape the accidents that so frequently happen to the other abdominal viscera. Their importance to the human economy, their anatomical peculiarities and relations to the other viscera, the difficulty of making an exact diagnosis at the time of injury before an operation is undertaken or thought advisable, give to the history of individual cases a distinct interest, and will in time make the duty and responsibility of the surgeon clear, as additional light is shed upon this class of lesions in the operating room as well as at the post mortem table.

Long before the era of antisepsis the necessity of providing free drainage in wounds of the kidneys was emphasized by Larrey and Dupuytren. The wisdom of this procedure was unrecognized or unheeded by the surgeons during the war of the rebellion. Of the seventy-eight cases of gunshot wounds of the kidney reported in the surgical history of the war, but twenty-six cases recovered. All were treated upon the expectant plan; no incisions for the purpose of exploration were made.

Perhaps we cannot form a correct estimate of the dangers which, though present in a small degree to-day, confronted the men who tried to solve the problem of life and death for the victims of kidney lesions which came under their care, often with complicated injuries, in the preaseptic era represented by the surgery of our civil war. The accumulated experience had taught, in addition to the fact that adjacent viscera were often wounded, that these penetrating gunshot wounds, unlike incised wounds of the kidney, were not likely to be followed by urinary infiltration of the retro-peritoneal tissues. This experience, which has been corroborated since, demonstrated that in gunshot wounds "the eschars lining the tract protect the parts until a limiting wall of inflammatory exudate has taken place." Therefore, in cases which in the beginning presented no urgent symptoms, it is not to be wondered at that the surgeons feared less the infiltration of urine and the formation of abscess than the more urgent and dangerous sepsis which too often followed the making of large incisions.

In this connection I would call attention to the fact that some of the complications of these wounds of the kidney were wounds of the stomach, spleen, liver, diaphragm, intestines, lungs and spine. Such cases were usually rapidly fatal, as can be well imagined, from shock and hemorrhage. I think that in the history of the cases that I shall relate I will convince you that the diagnosis must often be extremely doubtful and the symptoms misleading in many of these cases which shall be treated in the future, and that more often will the surgeon resort to exploratory incision to settle the question rather than rely upon being able to accomplish at the end of twenty-four or forty-eight hours what could be done with much less risk and a better prognosis within, say, a few hours at most subsequent to the reception of the injury.

We are so accustomed to the graver operations upon the kidney that are being made to-day that we are apt to forget that the first nephrectomy as a deliberate, planned operation was made as recently as 1869 by Gustav Simon, of Heidelberg, and that the operation of nephro-lithotomy was

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first performed by Morris in 1880. These two men have immortalized themselves by their work upon the kidney alone. The monograph published by Morris in 1844 is a classic that commands the attention of the student and has been quoted by every text-book and author who has written a line since upon the surgery of the kidney.

To those who are interested in the treatment of gunshot wounds of the kidney I would commend, in addition to this book, the admirable and exhaustive paper read by Professor Keen before the American Surgical Association this year, and published in the August number of the Annals of Surgery. He has tabulated all the cases of traumatism of the kidney that have been reported since 1878. In this list are nineteen cases of gunshot wound of the kidney, and there are given in a table the name of the operator, the nature of the injury, the treatment, operative or non-operative, the result, and a short comment. Of these nineteen cases ten recovered and nine died.

With these few remarks as an introduction, I take pleasure in relating the following two cases, employes of the Milwaukee Electric Railway and Light Company, which came under my care.

CASE I. On the night of June the 4th, 1896, during the recent strike of the employes of the Milwaukee Electric Railway and Light Company, as an electric car was making its way from a suburb of the City of Milwaukee, the car was fired upon from ambush, by unknown persons, supposed to be sympathizers with the striking employes. Both the motorman and the conductor were struck by flying bullets, the latter being wounded in the thigh by a bullet which lodged under the skin on the outer aspect of the right knee. This bullet, which I removed an hour or so later, was of 32 calibre. The motorman, John B., white, aged 27, a Canadian by birth, was struck in the back about two inches to the left of the spinal column and opposite the second lumbar vertebra by a ball which passed upwards, inwards and forwards, and lodged somewhere in the anterior aspect of the chest, under the costal arch. The shock of the wound brought the man to his knees, but he still maintained his hold upon the controller of the motor, and turning on the full current, the car struck a tree which had been thrown across the track and swept it out of the way, and amid a fusilade of bullets the motorman brought his car out of danger, with the conductor lying wounded on the floor. He ran the car fully a mile before anyone could relieve him, and was conveyed as quickly as possible to the Johnston Emergency Hospital, reaching there about 10 P. M.

At the time of admission the temperature was normal, the pulse 72, respiration about 30. The man showed little evidence of shock. The only thing in his condition that was particularly noticeable was a look of anxiety. No blood escaped from the wound in the back, and I was inclined at first to the belief that no serious damage had been done by the bullet. A slight probing of the wound showed its direction to be upwards and inwards, and thinking that possibly the kidney might have been injured I asked him to pass his water, and he replied that he could not. I then catheterized him and drew off about a quart of bloody urine. Some ten minutes later the catheter was again passed, and the urine which was drawn was heavily mixed with blood and clots. A priest having been sent for at the man's request, I asked Drs. Sperry and Purtell to see the case in consultation.

Knowing that the kidney was wounded from the presence of the hæmaturia, and being in doubt as to the character of the injury the kidney had sustained, an exploratory operation was deemed advisable, and a lumbar incision decided upon. With some difficulty, owing to an accident to our bullet probe, the left kidney was exposed by an incision along the track of the bullet. Upon reaching the perinephritic tissue a considerable amount of clotted blood and urine was found, which upon being removed disclosed a wound in the inferior convex border of the kidney sufficiently large to admit the finger. A long probe being introduced into the wound could be passed sufficiently far to demonstrate that the ball had not lodged in the kidney, and as the direction of the wound was such that I felt certain the pelvis of the kidney had not been perforated on its anterior aspect, no further exploration was made. The ball had traversed the inferior portion of the kidney and approached closely its pelvis.

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The hæmorrhage into the wound, though not rapid, was constant, and I plugged the ragged tear which the eye could see with a strip of iodoform gauze, bringing it out at the upper anterior aspect of the wound. I sutured the deep structures of the back with catgut in layers, providing a gauze drain in addition to the kidney drain along the track of the bullet at the inferior and posterior angle of the wound, the suturing of the skin and underlying structures being made between these drains.

During the 24 hours subsequent to the reception of the injury a considerable quantity of urine and blood was discharged through the wound, which decreased in quantity during the second day and ceased altogether on the third day. The dressings were changed several times during the first 48 hours, and some idea may be obtained of the amount of urine which escaped through the wound during the first two days by noting the fact that the amount of urine drawn from the bladder the first day was but 26 oz., the second day 31 oz., and the third day 47 oz., this being the day the urine ceased passing through the wound. No suppuration occurred in the wound. A few days later the gauze was removed from the bullet track, allowing the track to heal, and the second piece of gauze leading down to the kidney was gradually withdrawn, the wound being completely healed at the end of four weeks. The temperature curve was of no special moment, reaching its highest point, 100.8°, 36 hours after the injury, from which it gradually declined until the tenth day, when it reached the normal point. The highest pulse rate was 110, on the third day. The respiration deserves special notice, remaining for 48 hours subsequent to the injury between 36 and 42 to the minute. The catheter was used for three days, and ergatol in 15 minim doses was given for three days every four hours. In addition to this, owing to the fact that the man was suffering from a declining gonorrhœa, acetate of potash in 15 grain doses was given three times a day, and the bladder washed with a saturated solution of boracic acid. The day following the injury the symptoms, which were of no moment at the time of injury, assumed an alarming character. The man complained of pain in the left iliac region, the abdominal muscles were rigid, his expression was anxious in the extreme, and I feared that in making the lumbar operation I had overlooked a possible perforation of the intestines. By the third day the symptoms had improved, the bowels had moved successfully, and the blood which had continued mixed with the urine in considerable quantity, with the presence of clots, began to decrease in amount, and at the end of ten days had ceased altogether.

Little else than milk was given for diet for three weeks, and the man when discharged from the hospital at the end of four weeks was considerably emaciated, and left the city to recuperate at his home in Michigan. I regret to say that, owing to an excessive amount of work incident to the strike, I neglected to make a microscopical examination of the urine, the only notes being those of the record sheet, which show that while pus persisted in the urine for two weeks, at the time of his discharge the urine was clear. The patient spent the greater part of the summer on a farm in Michigan, and I saw him the other day, looking well and strong, completely restored to health, his only complaint being of an irritation from the probable presence of the bullet in the left chest wall.

CASE II. Richard R., aged 25, German, single, white, of splendid physique, was shot by accident with a 32-calibre revolver at three feet distance, August 17, 1896, 9 A. M. The person handling the revolver stood somewhat to the right of Mr. R., and the ball struck him in the anterior chest wall about two inches to the left of the nipple line. Mr. R. complained of no pain at first, walked to the rear of the building, and sat down on the outside steps. As I was not at home, the case was first seen by Dr. Hamilton, who had the man removed to St. Mary's Hospital, where I saw him in consultation about an hour later. At this time the patient's face wore an anxious expression, he complained of severe pain in the right iliac region, his abdominal muscles were rigid, the respiration was rapid, pulse accelerated, and he was sweating profusely. The man complained of no pain in the chest, there was no cough, no hæmoptysis, and no abnormal dullness over the right side of the chest that could be made out by percussion. The area of liver dullness was normal. Being in doubt as to

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whether the bullet had penetrated the chest wall, it being impossible to insert a probe, after a careful disinfection of the wound, I made a small incision with the bullet hole as a center, and found that the bullet had struck the upper border of the ninth rib, tearing off a small portion of the periosteum, and had penetrated the parietal surface of the pleura. A further exploration being deemed inadvisable, the wound was packed with iodoform gauze and the patient put to bed to await developments.

At 2 P. M. the man was restless, with a temperature of 99 3-5°, pulse 72, respiration 84. He had passed no water and could pass none. Although he was suffering from an acute gonorrhœa, I catheterized him, as I for the first time suspected that the kidney had been wounded. Twenty-four oz. of bloody urine was passed at this time. Twenty minutes later I again passed the catheter and drew off two oz. of urine heavily loaded with blood. With the consent of Dr. Hamilton I asked Drs. Purtell and Sperry, who had assisted me in the first case, to see this case also. The man was anxious to have the bullet removed if possible, and consented to an exploratory operation of the kidney. From the fact that the pain complained of was upon the right side I inferred that the right kidney had been wounded, notwithstanding that the person who did the shooting stood to the right of Mr. R. and that the wound of entrance was to the left of the nipple line. What direction the bullet took after entering the chest and what deflected it, whether it was a vertebral body or a rib posteriorily, we had no means of ascertaining. The wound of the rib anteriorly was but slight, being upon the upper border, and we inferred at the first examination that the bullet had either gone upwards into the chest or passed directly backward. The man being chloroformed, I made the usual incision in the right groin, parallel with the last rib, to expose the kidney. Upon reaching the fatty tissue surrounding the kidney I found a wound, showing that the ball had passed through it, and I could trace the track of the bullet with the finger for a short distance in the iliac fossa. The kidney was thoroughly exposed and freed from its fatty capsule over the inferior portion, and a careful exploration of the kidney between the thumb and finger showed the wound of exit through the kidney to be a ragged hole, easily admitting the index finger, on the posterior surface of the kidney, about its center, one inch external to the renal pelvis. Unlike the first case, no clotted blood was found around the kidney, and there seemed to be little or no extravasation of urine. Dr. Hamilton and Dr. Purtell each palpated the kidney. The hæmorrhage being slight, I was satisfied that no serious damage had been done to the kidney substance, and I did not feel justified in further separating the kidney from its bed to examine the wound of entrance into the kidney, and I at once proceeded to close the wound without irrigation, having first packed a strip of gauze into the wound on the posterior surface of the kidney, bringing it out at the anterior portion of the lumbar incision. The deep structures were sutured with cat-gut in layers and the skin with silk-worm gut.

The after-treatment in this case was similar to that in the case already described, ergatol for the first few days, with the citrate of potash.

During the forty-eight hours subsequent to the reception of the injury the urine was bloody and contained clots of blood. On the fourth day in the forenoon there was considerable blood in the urine without clots, and after this neither blood nor clots. The urethral discharge due to the gonorrhœa was profuse for a few days. As the pus had been carried into the bladder at the time of the first catheterization, the bladder was washed daily with warm water and boracic acid. No pus appeared in the urine until the thirteenth day. The amount of pus decreased steadily until the twenty-first day. Afterwards it could be detected only by the microscope. I made a urinalysis on the fourteenth day with the following result:

Reaction, acid.
Specific gravity, 1,020.
Pus. Blood (traces).
Hyaline casts, a few epithelial casts.
Albumen, marked.

A urinalysis at the end of the fourth week showed:

Reaction, acid.
Specific gravity, 1,020.
Albumen, none.

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Blood, none.

Pus, traces.

Casts, none.

The diet was restricted to milk and water for eighteen days.

On the seventeenth day the temperature, which had not exceeded 100.8°, suddenly rose to 102.6°, owing to the onset of an attack of epididymitis on the right side. On the following morning the temperature dropped to 98.8°. Three days later a second rise in temperature to 101.6° occurred, with an increase of the epididymitis, and from this time on it decreased until the 21st day, when it reached the normal point and remained there. In this case, as in the former case, the respiration was accelerated; for more than two weeks it remained between 34 and 36 to the minute. The pulse was normal, with one or two slight exceptions, during the entire convalescence.

Mr. R. left the hospital at the end of four weeks, and at the present writing he is rapidly regaining his lost strength.

A fact worthy of notice in both of these cases was the rapid emaciation which took place during the first three weeks. Case No. 1 lost forty pounds in weight in three weeks and Case No. 2 lost fifty-eight pounds.

The regaining of weight after being placed on general diet and allowed to exercise was almost as rapid, Mr. R., Case No. 2, having gained nineteen pounds in two weeks.

Another fact deserving of mention is that both men were suffering from gonorrhœa at the time of injury, and notwithstanding the introduction of the catheter neither of them developed a cystitis. The pus in the urine in case No. 2, of which I have a more exact record, did not appear until the 13th day. It was evenly mixed with the urine when voided, and resembled that so frequently seen in cases of pyelitis.

The absence of pus in the urine for more than ten days subsequent to the injury and its appearance subsequent to that time may, I think, be attributed to the sloughing incident to the process of repair in the kidney itself. This supposition is strengthened by the observation that at times the urine was free from pus, at others quite heavily loaded with it.

The wound in the anterior chest wall, which was packed at the time of the accident, was sutured by Dr. Hamilton on the fifth day, and healed by primary intention.

On the third day I dressed the lumbar wound, and noticing that but little exudation had taken place and that the presence of urine could not be detected, I withdrew the gauze with which I had tamponed the kidney and allowed the wound to close. Primary union took place and I removed the stitches the tenth day, the wound being completely closed.

The record of these two cases, similar in many of their details, examined from the post-operative standpoint, seems to present conflicting conclusions as to the indications for operation.

The symptoms presented a few hours subsequent to the reception of the injury in each case were misleading as an indication of the character of the lesion sustained. In Case No. 1, in which the kidney sustained the greatest damage, and in which at least one-third of the urine secreted in the 48 hours after the operation was passed through the lumbar wound, the patient at the time of operation showed little evidence of shock, complained of no pain, and apparently had suffered but slight injury.

These symptoms, however, during the next 24 hours were replaced by those of grave character, so much so that I feared the intestines had been wounded and that the man was developing a general peritonitis.

From conclusions drawn from a study of the cases reported during the war and subsequently, I am convinced that, without operation providing for free drainage in the lumbar region, this case would have been either fatal from extravasation of urine and the formation of abscess in the retro-peritoneal tissues, or at best have recovered after an illness of long duration.

In Case No. 2 the symptoms at the time of the first examination were of an alarming character. Twenty-four hours subsequent to the operation the patient was resting quietly, complained of no pain, and was in every respect in splendid condition, having passed no urine through the lumbar incision. This case, I believe, might have recovered without operation, as at the time of operation we found no extravasated blood or urine in the peri-renal tissues.

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Yet without operation we would have remained in the dark as to the character of the lesion, and would be without evidence that the ball, failing to make its exit from the body, had not lodged in the kidney itself.

I have been impressed by a study of these two cases with the fact that, beyond a knowledge that the kidney has been wounded made evident by the hæmaturia, in a gunshot wound of the kidney we can form but little idea from the character of the early symptoms as to the extent of the damage that has been done.

I, of course, will except an injury which severs the large vessels leading to or from the kidney, in which the evidences of internal hæmorrhage would manifest themselves very early.

In both of these cases, after a careful deliberation, I made a lumbar incision to the kidney for the purpose of exploration, believing that, from the direction of the bullet in the one case and from the known position of the person who did the shooting in the second case, the other abdominal viscera had not been wounded.

The comparatively uneventful recovery made in each of these cases demonstrates that the operation, if it were conducive of no good, at least did no harm.

In this connection I can but quote the words of Prof. Keen in the article above alluded to, in which he says: "If the surgeon has reasonable evidence that the kidney has been probably traversed by a ball (and all the more so if it is certain that it has been so wounded), and the patient is evidently in grave danger, as shown by the general symptoms of internal hæmorrhage and by the physical signs of a large lumbar hæmatoma or of intra-peritoneal bleeding, I take it for granted that all of us would recommend an exploratory operation with a view of determining the extent of the injury to the kidney and the proper treatment."

The question whether a case of gunshot wound of the kidney shall be treated by the operative or the expectant plan is one that in most instances will be difficult to decide.

The indications for early exploratory incision with or without nephrectomy have been most admirably stated by Prof. Keen in his recent article cited, and I would refer you to it for counsel.

Notwithstanding the rarity of this lesion, it is one that may confront any of us without a moment's warning, and I have reported these cases at length in the hope that something may be added to the meagre knowledge we already possess upon this interesting subject, or at least that the report of these cases may stimulate further research into the literature of the subject.

Notwithstanding the fact that I failed to find the bullet in either case, I believe that a better prognosis can be given to each of these young men from the knowledge that we possess that the kidney was not a receptacle for the bullet.

I trust further that I have demonstrated in both cases that when in doubt as to the advisability of operating we can be comforted by the knowledge that an aseptic exploration of the kidney under chloroform anæsthesia adds little or no risk to the patient.

Improper Feeding as a Cause of Lithiasis.

BY WALTER H. NEILSON, M. D., OF MILWAUKEE.

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That improper feeding is a cause of lithiasis is pretty generally accepted by the profession, but how it plays its part in the production of this expression of a general condition is not at all clear. While great strides have been made in physiological chemistry, we are still at a loss to know why two brothers, if you will, living under the same conditions and partaking of the same food, should the one exhibit lithiasis, or some other expression of retarded nutrition, while the other is an example of robust health. That there is something back of environment, habits and food which determines the rapidity of tissue metamorphosis and the completeness of food metabolism we must all admit, and that something we may call "diathesis," if you please, for want of a better name. Having recognized the diathesis of the individual as predisposing him to lithiasis, the question naturally arises, How can we avert the fulfillment of the predisposition? The arthritic diathesis of which lithiasis is one of its protean expressions is characterized by a retarded nutrition, a deficient oxidation which results in the acid dyscrasia. This acid dyscrasia produces or accompanies the various disorders of

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the arthritic diathesis, and is brought about by the presence of many acids in the blood, thereby diminishing its normal alkalescence. During the process of digestion and of tissue metamorphosis these are formed in the digestive tract and in the tissues themselves; and, if the digestive and tissue changes are incomplete, the acids are formed the more abundantly. This incomplete change may be due in the digestive tract to deficient or perverted digestive juices or to an excess of food to be acted upon by these juices. For example: Lactic, butyric, proprionic and acetic acids may be formed from saccharine substances, and from starches the same acids less proprionic with the addition of oxalic acid, while from proteids in the intestine we can have, as a result of pancreatic and bacteriologic ferments, caproic, acetic and the amido acids, leucine and tyrosine. The oxidation of fats in the tissues yields stearic, oleic, palmitic and volatile fatty acids, while the direct results of nitrogenous waste are: uric, hippuric and oxaluric acids. From this last comes oxalic acid, and saccharine derivatives are also formed which yield lactic acid, cholestrine, etc. Thus we see a large amount of acids poured into the circulation. Now if oxidation be complete, nutrition not retarded, these acids are converted into the end products, water, carbonic acid, urea, uric acid and hippuric acid, while others, remaining unchanged, are normally eliminated by the skin, kidneys and intestinal canal. But if oxidation be incomplete, either through the influence of the diathesis or by an over-abundance of food, or of improper food, or through bad hygienic surroundings, or diminished lung capacity, we have all or many of the evils of the acid dyscrasia to contend with, and one of these is lithiasis, a tendency to the deposition of acids or their salts in the tissues and cavities of the body. Chief of these are uric and oxalic acids and their salts; and in biliary lithiasis we have cholestrine and calcium carbonate deposited. Uric acid, which is the chief element in renal lithiasis and in gout, is normally found in the urine, some eight grains per day, on the average, being eliminated in the form of urates. It is held in solution in a warm alkaline fluid, but is easily precipitated from a highly acid or concentrated urine. In the blood it is held in solution normally by the presence of tribasic phosphates which are robbed of one equivalent of base, forming urates, which remain in solution and are non-irritating. But if there be a diminished alkalescence through an excess of acids, uric acid and urates are deposited, as we see in gout, or we may have large quantities of uric acid discharged as gravel. Oxalic acid, resulting, as we have seen, from deficient oxidation, combines with calcium, irritates all tissues, giving rise to the manifold symptoms of oxaluria. Again, with the increased amount of acid in the blood, especially lactic acid, calcium is dissolved from its protoplasmic combinations and acts as a precipitant of cholestrine. Thus we have cholestrine precipitated from the bile, and the first step taken towards the formation of biliary calculi. As a result of the irritating acids flowing through the heart and vessels, the endothelium finally becomes inflamed, resulting in cloudy swelling, deposition of round cells, thickening of the coats, destroying their elasticity, and finally necrotic patches result, which, as well as in some instances the whole structure of the vessels, becomes infiltrated with calcareous deposit.

Having seen that an excessive amount of acids circulating in the blood is productive of lithiasis in its various forms, and that these acids are the result of deficient oxidation and imperfect digestion, we are prepared to consider the influence of improper feeding in regard to the matter, and the more intelligently to answer our question, How best to avert the fulfillment of the predisposition? As we have seen, the various acids are manufactured from both varieties of vital food stuffs, so that we cannot with fairness place either one under the ban of our disapproval. We have also seen that when digestion was imperfectly performed, acids were the more abundantly formed; and when oxidation was not sufficient, uric and other acids took the place of the end products of tissue change. Hence it is but natural to conclude that the food furnished a person with a tendency to lithiasis should in quantity and quality be within the limits of stomachic and intestinal digestion, and furthermore it should be of such a character as not to tax too severely his oxidizing capacity. An excessive amount of either proteids or carbo-hydrates will do this, and will be

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followed by diminished alkalescence, though the digestive function may be perfect. In determining which form shall preponderate in a given case we must consider the patient's special needs, whether they be for nitrogenous material or for carbo-hydrates or for a judicious combination of the two. The danger in giving proteids is in giving more than can undergo complete metabolism, and this danger is largely added to by the presence of carbo-hydrates, which are insatiable robbers of oxygen. Giving too much of carbo-hydrates, you have not sufficient oxygen left to convert uric acid to urea or to complete the oxidation of the remaining acids. Hence the giving of sugar, starches and fats alone with the view of reducing acidity is a disappointment; while feeding large quantities of proteids will likewise result in an exaggeration of the acidity. The rule should be in all cases of lithiasis to give such proportions of both varieties as can be comfortably digested by the patient, thus assuring us that no more than the normal amount of acids is absorbed from the alimentary canal; having care that if the individual requires more of one form than the other, that the opposite to the one in excess be reduced in proportion to its oxygen-destroying value. Thus will the equilibrium be maintained, and, by resorting to measures to increase oxidation to improve nutrition and favor elimination, can we hope to do much for our cases of lithiasis.

Prophylactic Measures for the Operating Room in the Private House.

BY CHARLES W. OVIATT, M. D.

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Read before the State Medical Society, June, 1896.

Prophylaxis as applied to the room in which a surgical operation is to be performed in a private residence consists almost exclusively in the effort to prevent wound infection. I shall, therefore, confine my remarks chiefly to that subject.

A criticism formerly offered by the opponents of antiseptic wound treatment was that the technique was too frequently changed to stand for any fixed principle. The changes that succeeded each other in the evolution of modern methods were due to a faulty knowledge of the biology and life history of the pathogenic microorganisms having to do with wound infection.

Our knowledge has now become much more definite through the study of practical bacteriology, while the technique of the operating room has become correspondingly simplified and exact. We no longer fear contamination of wound surfaces through the medium of atmospheric air, knowing that when infection takes place it does so largely, if not entirely, through contact.

Asepsis is the key-note of modern surgical work, and antiseptic measures are recognized as being only a means toward that end. Surgical cleanliness, however, can only be comprehended and carried out by those whose knowledge of it embraces something more than formulæ of antiseptic solutions and the wearing of a white gown. The old simile that a chain is no stronger than its weakest link holds good in the application of correct principles in wound treatment. The slighting of the minutest detail renders our effort an unknown quantity, the sum of which may count greatly against our result. While failure to guard against infection may follow the best directed efforts, success in this direction is, after all, largely a personal equation with the surgeon and his assistants.

A modern hospital, with its well-equipped, aseptic operating room, while greatly to be desired, is not, strictly speaking, a necessity for surgical work. With the aid of the trained surgical nurse a room in an ordinary dwelling or flat can be transformed in a few hours into a safe and fairly convenient room for the purpose.

The room should, if possible, be selected with reference to the best light at the hour appointed for the operation. Carpets, upholstered and unnecessary furniture should be removed. The woodwork and floor should be scrubbed with hot water and soap, and afterward with a 1 to 1,000 corrosive sublimate solution.

Where practicable, the nurse should be in the house at least two days preceding the operation to look after the details in the preparation of the room and of the patient. The room selected should, if possible, be upon the same floor with the one which is occupied by the patient, and should be large enough to contain a single bed and the improvised operating table, with stands

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for instruments, dressings, solutions, etc. By this arrangement the patient sees none of the preparation, and can be put into a fresh bed in a clean room immediately on being removed from the table. The anæsthetic is to be given before the patient is carried into this room.

The nurse should see that the following articles are provided and in readiness:

A clean wash-boiler two-thirds filled with well or spring water which has been boiled for at least two hours on the day previous, and which is again brought to the boiling point just before the operation.

A sterilized five-gallon earthen jar filled with water boiled in the same manner and allowed to cool. This should be kept carefully covered.

Five yards of iodoformized gauze; ten yards of plain sterilized gauze, and a pound of absorbent cotton.

One dozen freshly-washed and ironed towels.

Three clean sheets: one for covering the operating table; one for covering instrument and dressing table; one for covering the patient.

Three wash bowls: one for washing hands of operator and assistants; one for sublimate solution, and one for sterilized water for rinsing hands during operation.

Two soup plates or small platters for needles, ligatures, drainage tubes, etc.

Two large earthen dishes for gauze sponges, compresses and strips of iodoform gauze.

One small pitcher for dipping water from the boiler.

Two new flat six-quart pans for instrument trays.

One clean tub for slops.

All dishes are to be sterilized by means of hot sublimate solution after thorough washing.

The operating table should be about five feet long, 20 inches wide, and 31 inches high. An ordinary kitchen table with a stand of the same height placed at one end of it usually approximates these dimensions nearly enough. On this is placed a folded woolen blanket, covered with a clean sheet, over which is placed a sterilized rubber sheet at a point corresponding to the field of operation.

The nurse should be supplied with a steam sterilizer in which all dressings, gowns, towels, etc., may be sterilized the morning of the operation. There are a number of portable sterilizers upon the market, many of which are undoubtedly all that could be desired, but my personal preference is the Boeckman, the small size being easily carried in a shawl-strap. It can always be relied upon for doing good work.

The instruments to be used are wrapped in a towel, knives and delicate instruments being protected with cotton, and boiled for ten minutes in a solution of *carbonate* of soda (sal soda—washing soda) and not the *bi-carbonate* (baking soda), as we so often see advised in the journals. The soda solution is made of the proper strength by adding a teaspoonful to each quart of water.

When the instruments are transferred to the trays they are to be covered with hot water.

In emergency cases, especially when the services of a trained nurse cannot be secured, it is much more difficult to carry out these principles; still, with a supply of boiling water and a systematic method, it can be accomplished.

In these cases it is my habit to do as much of the preparatory work as possible before leaving the office. To this end I have a half dozen rubber bags, made out of double-faced rubber sheeting, of different sizes. These, together with rolls of gauze, gowns, towels, silk in Kelly's tubes, scrubbing brushes, etc., are placed in a Boeckman sterilizer and sterilized. Then with carefully prepared hands the articles are placed inside the rubber bags.

The instruments, which have been boiled while the sterilizer was at work, are wrapped in sterilized towels and also placed in a bag. These are all packed in a large grip, which contains everything needful in an ordinary operation, and to the bottom of which are strapped two instrument trays.

The preparation of the patient in an elective case should be as thorough in every detail in the private residence as in the hospital.

The urine should be carefully measured and examined. The bowel should be cleared by a saline purgative; warm baths administered, and if the case is to be an abdominal section, nothing but liquid food should be given for the preceding 24 hours.

Following the warm general bath on the day

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previous to the operation, the surgical field should be shaved, thoroughly scrubbed with green soap and hot water, and a moist sublimate dressing applied, covered with oil silk and retained in position by a bandage, to be removed only when the patient is placed upon the table.

At the time of the final general scrub the field is again gone over with soap and water, alcohol or ether, sublimate solution and a final dash of alcohol.

The preparation of the hands of the surgeon and his assistants is one of the most important prophylactic measures in the operating room, and while the importance of it has been preached in season and out of season, it remains a fact that infection comes more often from dirty hands than from any other source.

Ten minutes of constant, active scrubbing with a stiff brush and potash soap in running water, or water frequently changed, paying especial attention to the nails, will remove mechanically about all the pathogenic germs that may have accumulated upon the hands and forearms. How often, however, do we see men preparing to operate spend from two to three minutes with the scrubbing brush, then a rinse in sublimate solution, and their conscience is satisfied, and they are ready to go to work. It is sometimes quite embarrassing, especially if it is the first time he has sent for you, to tell a physician that you are afraid of his hands. I never knew just what to do with the two-minute scrubber and the man who persists in assisting with rings on his fingers until Prof. Senn told of his method. As soon as an incision is made, two sharp retractors are fastened into the tissues and given to the gentleman with definite instructions to hang on tight until he is told to let go, which order is given only when it is time to close the wound. He may be in the way frequently, but it is better to put up with some inconvenience from this source than to run the risk of infection.

The trained nurse is one of the most important factors in the prophylaxis of the operating room in the private house. By her almost magic touch an ordinary room is transformed into a place where modern surgical principles can be successfully carried out. Without her aid I would feel almost like abandoning the work, and I sincerely pity those who are obliged to do without her invaluable services.

Shall we Leave the Uterus in Situ in Excision of the Adnexæ?

BY DR. E. F. FISH, MILWAUKEE, WIS.

Abstract of paper read at the Virginia meeting of the American Association of Obstetricians and Gynæcologists, Sept. 22, 1896.

The paper was a general defense of the uterus and an argument in favor of leaving it *in situ*, if sound, after excision of the appendages. It takes up and considers the pathologic conditions which require hysterectomy after salpingo-oöphorectomy, as well as the conditions which do not require it. It argues against all operations which leave a degenerated uterus, such as Hegar's, Tait's, Martin's and Robinson's, except under extreme conditions, and concludes in the following language:

1. Whenever it becomes necessary to excise the uterine adnexæ, if the uterus is sound, leave it.

2. Whenever we excise the tubes and ovaries, and the uterus, though in a pathologic condition, in our judgment will yield to treatment, leave it.

3. Whenever it is necessary to do an abdominal hystero-salpingo-oöphorectomy and the cervix is healthy, do a supra-vaginal amputation, as this leaves the vaginal vault intact.

4. Whenever it is necessary to do a supra-vaginal amputation, suspend the cervix to the stumps of the broad ligaments, or anchor it to the abdominal wall, to prevent prolapsus vaginæ. Baldy.

5. Whenever it is necessary to do a general ablation, and the cervix uteri is unsound, take the entire organ, because of the danger of carcinoma.

6. Whenever a subserous or interstitial myoma can be removed without too great damage to the uterus, do a myomectomy and leave the organ.

7. Whenever we excise the appendages and leave the uterus, ventral fixation is not an unsurgical operative conclusion.

My reasons for leaving the uterus:

1. It helps to maintain the woman's sexual integrity.

2. It relieves the patient of much mental strain, and is a prophylaxis to neurasthenia, melancholia and insanity.

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3. It tends to maintain the family ties unstrained.

4. It obviates the possibility of vaginal hernia, cystocele and protocele, if the perineum is normal, and delays vaginal atrophy, and last of all it holds up and prevents shortening of the vagina.

Connection of Tuberculosis with Diseases of the Skin other than Lupus Vulgaris.

Dr. Nevins Hyde, of Chicago, in a paper based upon arguments and facts, stated that it may now be accepted that primary and secondary infection of the skin with tubercle bacilli may take place, and that auto-infection of the skin may also occur. The diversity between the several clinical forms of cutaneous tuberculosis may be explained by the quantity of micro-organisms present in any given case, by differences in the tissues on which the germs are implanted, and by accidents of exposure of the infected region. The various skin lesions (other than lupus vulgaris) due to tuberculosis may be classified as follows: Those in which the bacillus tuberculosis has been demonstrated—(1) verruca necrogenica, (2) tuberculosis verrucosa cutis (Riehl and Paltauf), (3) tuberculosis papillomatosa cutis (Morrow's type), (4) fibromatosis tuberculosa cutis (Riehl), (5) elephantiasis tuberculosa cutis, (6) tuberculosis cutis ulcerativa, (7) tuberculosis gummatosa ulcerativa (cutaneous scrofuloderm), (8) lymphangitis tuberculosa cutanea (Besnier), (9) tuberculosis cutis serpiginosa ulcerativa, (10) tuberculosis cutis fungosa, and (11) tuberculosis nodosa atrophica (lupoid form). Skin lesions in which the bacillus tuberculosis has not always been demonstrated, but in which there is every reason to believe that it will be in the future—(1) lupus erythematosus, concerning which Dr. Hyde had come the conclusions (*a*) that it does not originate from nor is it the source of tuberculous infection, (*b*) it occurs in non-tuberculous subjects as a result of causes as yet undetermined, and (*c*) it also occurs in tuberculous subjects and then there exists a relation between the two; (2) erythema induratum scrofulosorum (Bazin's disease); (3) lichen scrofulosorum; (4) tuberculosis suppurativa et bullosa acuta (Hallopeau); (5) a group of acneiform, sycosiform, and follicular disorders in which it is possible that tuberculosis may be responsible for some of the results; (6) keloid, and (7) ulcus molle complicated with tubercuolosis. In the last group the author named (1) a few eczematoid disorders (neurodermatites), (2) erythema pernio, (3) exceptional forms of erythema multiforme, (4) some of the melanodermata, (5) purpura of the cachetic, and (6) a few of the drug dermatoses.

Dr. Hallopeau, of Paris, insisted on the necessity of early recognition of tuberculous lesions of the skin. This diagnosis could be effected by (1) the possibility of transmitting tuberculosis from such lesions by a series of inoculations of the morbid matter; (2) the presence of the bacillus tuberculosis in the tissues of the lesions; (3) the production of similar eruptions, such as lichen scrofulosorum, under the influence of tuberculin, and (4) the production of the symptoms of a reaction and visible changes in the skin by the hypodermatic injection of tuberculin. But none of these conditions can be regarded as a *sine qua non*. The types of elementary skin lesions which have up to the present been connected with tuberculosis are: (1) sclerotic and warty tuberculosis, where the process involves the papillary body; (2) the anatomical tubercle; (3) tuberculous gummata; (4) tuberculous tumors resembling mycosis fungoides; (5) tuberculous ulcerations; (6) erythema (lupus erythematosus), and (7) other superficial forms of tuberculosis of the skin, such as lichen scrofulosorum, suppurative folliculitis, and the like. The multiplicity of these various manifestations is explained by the different liability of the various constituent elements of the skin, the state of the health, and the age of the patients attacked.

Dr. Radcliffe Crocker, of London, laid stress on the fact that, while there are a certain number of diseases of the skin directly due to the presence of the bacillus tuberculosis, there are many other skin diseases which, though they are not due to this organism, find a favorable soil in those persons who seem to be predisposed to invasion by the bacillus. Examples of such a condition are to be found in persons who present the phenomena of easily-excited bone disease, glandular enlargement, etc.—clinical conditions which come under the head of the "scrofulous diathesis." Cases were narrated and drawings shown in illustration of this. It was advisable to retain the word "scrofuloderma" for application to some conditions of the skin, which were attended by involvement of the glands, extensive suppuration, and ulceration of the skin.—*Universal Medical Journal.*

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A Monthly Journal of Medicine and Surgery.

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MILWAUKEE, WIS., OCTOBER, 1896.

The Spread of Diphtheria.

One hundred and three cases of diphtheria were reported to the health department during the first three weeks of October, and one hundred and eighty vials of antitoxin sold during the same time. Never in the history of Milwaukee, we believe, have so many cases been reported in the same length of time, and doubtless many more cases have occurred which were not reported. It is a matter of every-day experience with physicians, when called to cases of diphtheria, to elicit the information that some member of the family had a similar affection, but recovered without the aid of a physician. Again, we find that a child has been ill for several days, the other children of the family going to school and mixing freely with the neighboring children. Thus is the disease spread. The causes underlying this sad condition, aside from the direct and indirect pathologic factors, are the prevailing stringency of the times, and secondary to this the dread of the quarantine which compels the wage-earner of the family to remain at home, thus not only cutting off the support which, these times, is at best scanty, but endangering a position which is the only barrier between the family and the coldness of county charity. We do not believe that physicians generally are guilty of concealing cases—there may be exceptions, and the health department does its duty in giving warning and making an example of derelicts—but the few cases that may thus not be reported on account of too active sympathies on the part of the physician are not a circumstance to the cases that are concealed from physicians for fear of quarantine, for fear that through the quarantine there will be loss of position, loss of the only means of support. This is no figment of fancy, but cold, hard fact. Cases are concealed every day and the physician only called in desperation —only called when many innocents have been exposed and the disease increased many fold. THE JOURNAL does not wish to be understood as being opposed to quarantine, indeed, we have always advocated it, as our files show; but we have viewed with increasing alarm the operation of the new rule requiring the father of a family as well well as every other member of the family to remain at home during the weeks of quarantine. Theoretically the strict quarantine is the proper procedure, but its workings under the present financial distress, to say the least, are not practical. There is no one but must allow that there is infinitely more danger from a case of concealed diphtheria in a populous neighborhood than from one in which the house is properly placarded, a warning to all, and the adult workman allowed to go to his business. The danger of his carrying infection to his fellows we all know is reduced to the minimum; surely it is in no ways to be measured with the dangers of concealment.

Our Water Supply Again.

With reference to the communication published in another column, in which our correspondent complains of our attacking Dr. Kempster, we have only to say that the Doctor begs the question; that he sets up dummies of straw and right valiantly knocks them down. While this is a pleasing diversion,

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and takes us back to juvenile days when we slaughtered imaginary Indians and scalped them with wooden knives, it is so entirely at variance with the Doctor's habit of sober mindedness and general placidity of character that we must marvel greatly at the change. We would call the Doctor's attention, however, to the fact that in the offending editorial we made no mention of garbage being thrown into the lake off the shore of Mequon; that we neither commended nor condemned Dr. Kempster for having called the Council's and the public's attention to that nefarious breach of contract; although, now that our attention is called to it, we will say that one of the functions of the health department of which Dr. Kempster is head is to see that all garbage is disposed of as provided by enactment of Council. Now, if either praise or blame be deserved, we believe it to be the latter, for having relaxed his vigilance sufficient to permit so heinous a lapse from common decency. Nor are we of those who believe that, having lapsed in our duty, we should make a great ado in calling attention to the misdeeds of others. Our Council evidently thought likewise, for both the offender and the caretaker were reprimanded.

Nobody denies that several loads of garbage were dumped into the lake. Every one condemns the act as monstrous, but the fact still remains that our drinking water is pronounced by experts in deed, not alone in name, to be "most excellent and remarkably free from organic matter and pathogenic germs." And, indeed, the remarkable freedom we enjoy from typhoid fever flatly contradicts any assertion to the contrary. "The proof of the pudding is the eating thereof," and we are abundantly satisfied with the healthfulness of this particular "pudding." We know that there are not a few of Milwaukee's population with whom, judging from their aversion to it, city water or any other water does not agree. In fact, we believe that their stomachs would rebel at any liquid not fortified by corn juice, malt and hop extract, aloes, wormwood, etc., and if any water should accidentally slip down their gullets it would "steam and hiss like in a miniature tophet" to the imbiber's extreme discomfort. But we can personally vouch that our correspondent does not belong to that class. Therefore we are surprised the more at his onslaught on our water supply. As to children being made sick by the water properly administered, we have as yet failed to notice it.

We have condemned the Commissioner for declaring our water supply full of organic matter and pathogenic germs when such has been shown not to be the fact, for such statements work harm in many ways, not the least being the impression made on timid, nervous individuals, causing a depression which predisposes to disease. We give him the benefit of the doubt, however, regarding the reliability of his source of information, and will trust that he was honest in his cries of warning. Nevertheless we do insist that any action on the part of our health department calculated to cause widespread alarm and uneasiness, unless such action be based on fact, should receive severe condemnation. On the other hand, we most certainly agree with our correspondent that we should stand by the department —but only when it is right. This has ever been our position, and reference to our files will show that we have endeavored to support the Commissioner when we felt that he was honestly trying to do what his judgment dictated to be for the good of the community. As THE JOURNAL is not in politics, we have nothing to say in regard to the spirit of socialism and even of anarchy so rampant in the communication, but, knowing the author as a mild-mannered gentleman, studious withal and given to attending strictly to business, can only marvel.

The Fiftieth Anniversary of the Discovery of Anæsthesia.

The fiftieth anniversary of the production of anæsthesia by sulphuric ether was fittingly celebrated in the Massachusetts General Hospital on the 16th inst. Dr. Morton, the dentist who gave this great boon to suffering humanity, would feel himself partially repaid for all the anxiety, rebuffs, disappointments and ingratitude to which he was subjected during his untiring efforts to introduce and popularize his discovery, could he be aware of the many encomiums bestowed upon his memory and know the sense of gratitude that fills the heart of everyone his beneficence has reached.

William Thomas Green Morton was born in

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Charlton, Massachusetts, August 19, 1819, and early began the study of dentistry, and later took up medicine. During this period his interest in his experiments so engrossed him that he failed within a few months to complete his course. On October 16, 1846, in the Massachusetts General Hospital, in the presence of the notable surgeons of Boston, he first publicly anæsthetized a patient who was to have a fatty tumor removed. The operation was performed without giving pain to the patient, and thus a signal triumph over the conservative, doubting element of the profession was gained and a wonderful boon conferred on suffering humanity. Still there were many trials in store for him. Recognition came but slowly, envious competitors harassed him and the full meed of gratefulness was not extended him until after his death. He died as the result of acute articular rheumatism, stricken down while riding in a public park, from which he was removed to St. Luke's Hospital, New York, where he soon afterwards expired, at the age of 48. He was buried in Mt. Auburn Cemetery, near Boston. A monument has been erected over his grave with this inscription, written by Dr. Jacob Bigelow, of Boston: "William T. G. Morton, Inventor and Revealer of Anæsthetic Inhalation. By whom pain in surgery was averted and annulled. Before whom, in all time, surgery was agony. Since whom science has control of pain."

Communication.

MILWAUKEE, Oct. 8, 1896.

To the Editor of The Milwaukee Medical Journal:

DEAR SIR—In your issue of September you published an editorial on our water supply, in which editorial you allude to the purity and healthfulness of our drinking water, and, it appears to me, wrongfully attack Dr. Kempster. In my opinion our lake water is at no time any too good, and all physicians know what a deleterious effect it frequently has upon our patients, especially upon children. Indeed, healthy individuals are oftentimes not able to take it, and must resort to spring water. It is, however, not on the question of the wholesomeness of our water that I take issue with you, but on the manner in which you attack our Health Commissioner.

At the investigation it was clearly shown that large quantities of garbage had been thrown into the lake. That garbage and dead animals were washed ashore by the waves can be certified to by those who visited Donges' grove during the summer. "The shore," says an eye-witness, "was covered with the filthiest of garbage. All kinds of dead animals, such as dogs, cats, rats, mice, etc., were abundantly represented, and the stench was simply intolerable. We were obliged to continually smoke cigars in order to ward off, at least to some extent, the loathsome emanations."

I am not in a position to say whether our water supply was in this manner actually rendered unfit for drinking purposes or not, but it is evident, and the esteemed editor of THE MILWAUKEE MEDICAL JOURNAL will admit, that if this process of "rendering" garbage had been continued, incalculable harm would have been done, and it is for his timely and energetic interference that Dr. Kempster deserves the praise of the entire community. It is the sacred duty of all physicians to stand by our Health Commissioner in this matter. I cannot comprehend why Dr. Kempster's conduct should be condemned and the guilty shielded. Physicians should be the first to protest when the health of the public is being endangered, and thus uphold the honor of the profession.

It is sufficient for us to know that garbage was thrown into the lake instead of being otherwise dealt with, and it must be admitted that as a consequence our water supply was to some extent polluted and rendered defective. The citizens annually expend a large sum of money to have their garbage cremated, and in return they receive contaminated drinking water. Thus, the health of the public has been unnecessarily jeopardized. If this summary process had been persisted in, many lives would undoubtedly have been sacrificed. And why? Simply for the sake of pecuniary gain—for the greed of money. These greedy people should be punished to the full extent of the law. Their charter should not only be revoked, but they should be severely punished.

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When a poor wretch steals a loaf of bread to keep his dear ones from starving, or when walking the street shivering with cold he steals a coat or a pair of shoes, he is at once denounced an anarchist and is cast into prison. Who sympathizes with this unfortunate creature? Does this Christian world feel with him? No. The moment the prison door closes behind him he is dead to the world. When an honest man dares to express his opinion, and has the courage to expose fraud and corruption, he is by all alluded to as a dangerous man, as an anarchist. But when prominent, well-to-do citizens imperil the lives of thousands, and when they shrink from their obligations, they are honorable men and associate with the "best of society." The former goes to prison; the latter enjoy the luxuries of riches. When a wealthy man infringes upon the law the cry of anarchy is no longer heard. The criers have suddenly and inexplicably become dumb—all is mute. Beware of the crier, for he is treacherous. He is forever ready to leap upon you from his den and strangle you.

Dr. Kempster's conduct in this matter has certainly been commendable. By his opportune interference many lives have undoubtedly been saved, and a foul scheme has been brought to naught. What is a life to an unscrupulous miser? Absolutely nothing. He will sacrifice a thousand lives if he can thereby gain "gold, yellow, glittering, precious gold," for he knows too well that "much of this will make black white; foul, fair; wrong, right; base, noble; old, young; coward, valiant."

In your editorial you make the following remarks: "We must denounce as harmful and mischievous, alarms which have no foundation in fact, and would respectfully urge upon the department the necessity of having such foundation, for then only can it expect hearty co-operation on the part of intelligent citizens." If intelligent citizens can see no reason for protesting when thousands of tons of the most filthy material are thrown into the very source of our water supply, then, permit me to ask, what is the mental capacity of those who refuse to be treated to such delicacies as garbage and dead rats? If they are not intelligent, then they are ignorant; perhaps they are idiots. Hence, only idiots and ignorant individuals will protest against being fed on garbage. Strange logic!

It appears paradoxical that anybody, especially physicians, should oppose the Health Commissioner in maintaining a high standard of health. Whosoever opposes Dr. Kempster for having shown by what means our water supply has been vitiated is assisting, although perhaps unknowingly, in lowering the standard of health.

I can see no plausible reason why any citizen of Milwaukee should hinder Dr. Kempster in his noble work. Let us stand by him; let us support him, for it is only our duty. It is in the interest of all to have a wholesome water supply. Are we going to permit a few individuals, although they be prominent men, to pollute our water and to endanger the lives of our friends and families? If not, then let us second Dr. Kempster's work.

J.

P. S.—Since date of writing I have had our water tested for organic matter. This test convinces me that our drinking water still contains considerable quantities of organic matter, and forces one to the dire conclusion that Dr. Kempster it not far from the truth when he says that our water is unfit for drinking purposes. J.

Reprints.

INGUINAL and Scrotal Cysts, Simple and Complicated in Infants or Young Children. By Thomas H. Manley, M. D., New York.

ACUTE Rheumatic Iritis: with Cases. By A. Brytton Duguard, M. D., "Post-Graduate."

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nary Position. By Charles A. Oliver, A. M., M. D., Philadelphia.

OPHTHALMIA Neonatorium. By Wm. Cheatham, M. D., A. B., Louisville, Ky.

MANAGEMENT and Treatment of Tuberculosis in the Asheville Climate: with Report of Cases. By James A. Burroughs, M. D., Asheville, N. C.

Publishers' Column.

The Hypnotic Effect of Pellotine.

Prof. F. Jolly reports his clinical tests with Pellotine muriate (the new hypnotic introduced by Dr. Heffter, of the Pharmacological Institute of Leipzig, and manufactured by C. F. Boehringer & Soehne, of Mannheim) in the *Therapeutische Monatshefte*, June, 1896. He employed Pellotine muriate, preferring this salt on account of its ready solubility in water; his experience covers 40 cases at the Charité Hospital of Berlin. In one-half of these cases the drug was administered during the day, either by mouth or subcutaneously; doses of ⅓ grain (0.02) caused languor and sleepiness in quiet patients, but usually this effect followed only after 3-5 to 9-10 grain doses —causing several hours' sleep within ½ to 1 hour after administration. In some cases the pulse rate was decreased, in others not at all, and only at the beginning of sleep. In painful affections (lancinating pains in tabes, neuritis and ischias) sleep was also induced, but an anesthetic effect was only occasionally noted before and after sleep. In excitable and delirious patients the above-mentioned doses were insufficient; even 2-grain (0.12) doses did not produce sleep, but had a calming effect—lasting all day—on the patient.

In 20 cases the drug was administered at night as hypnotic, and ¾ to 1 1-5 grain (0.05–0.08) doses were found to equal in effect 15 grains of trional or 22 to 30 grains of chloral. Of side-effects, excepting the inconsiderable slowing of pulse-rate, a few patients exhibited giddiness and a feeling of unrest before sleep ensued; a few also complained of similar feeling upon awakening in the morning. In several cases the hypnotic effect was not produced, but in these other hypnotics had also proved ineffectual. In no instance were serious side-effects noted.

The author then quotes six typical cases from his records, in which 4, 1 and 5 hours' sleep were induced in three cases; one slept through the night for three consecutive nights; one slept peacefully through the night, while otherwise her rest had been frequently broken; and one slept fairly well, although there occurred two periods of wakefulness.

Prof. Jolly's report is generally favorable, and he concludes that he will continue the use of this new agent, and will render additional report after more extended trials.—*American Therapist, August, 1896.*

"Eisen-Hunger."

Physiological and clinical tests prove that ferratin supplies the needed iron *to nourish the blood* —and hence *the system*.

On page 341 of Prof. Schmiedeberg's "Arzneimitellehre" (latest edition) this eminent pharmacologist states: "The fact and effect of a craving for iron (eisen-hunger) can be experimentally proved on animals. A strong, frisky dog, after a moderate loss of blood, was fed for five months on pure milk only, and gradually became so weak that he refused further nourishment, became reduced in body weight, tottered when on his legs, and finally was at the point of death. At this stage 1 gramme of ferratin was added to the milk per day; the dog ate this with ravenous appetite, and within 14 days had regained his weight and general condition to nearly equal the normal strength and activity possessed before commencement of the experiment."

Ferratin in 8-grain doses three times daily was recommended by Germain Sée, the late distinguished French therapeutist, for "those suffering from anemia from hard work, though apparently in good health; those, of both sexes, affected with chlorosis; those weakened by too rapid growth and puberty; those fatigued by study; and, in short, all in whom a dimunition of red blood corpuscles had ensued, due no matter to what causes."

Pain Relieved with Utmost Safety.

Albert M. Williams, A. M., M. D., of Bradford, Pa., says: "I have used antikamnia in my practice since its first introduction, and used it extensively. At first I was a little cautious and a little apprehensive, and rarely ventured on larger doses than five grains; but for several years I have given it in ten and fifteen-grain doses to adults, and, when needed, repeating every hour or two hours. I have rarely been disappointed in controlling pain, if the pain was of a character

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to be controlled by medicine. In severe neuralgias, or any severe form of pain, my method is to prescribe ten grains, to be given every hour till the pain ceases. I seldom use morphia or opium in any form. I have seen so many unfortunate victims of the opium habit that I shun its use, and antikamnia is my sheet anchor. The effects of opium, and its alkaloids too, are most disagreeable to many people. I always suffered untold misery when I had taken even a small dose of morphia, itching and nausea especially continuing for about two days. There is none of this following the use of antikamnia, and I have never heard of a victim of the antikamnia habit. I have yet to see the first case where any alarming symptoms have followed its administration. I have for a long time been in the habit of prescribing it in a little larger doses than are recommended, and any bad results from its use must be due to some idiosyncrasy on the part of the patient."

Ferratin.

Marfori (*Archiv. Ital. de Biol.*, Tome XXIII., Fasc. I.-II.) publishes the results of some recent experiments upon the absorption of ferratin and its physiological action. He states that the quantity of ferratin that can be absorbed depends largely upon the condition of the mucous membrane of the gastro-intestinal tract. Sulphuretted hydrogen, which accompanies putrefactive processes in the intestine, *slowly* decomposes ferratin (it immediately precipitates ordinary iron compounds.—Ed.), and so reduces the amount capable of being absorbed. The large amount (13.7 to 41.68 per cent.) that occurs after administration of saline purgatives Marfori ascribes in part to the aseptic condition of the bowel, and in part to the fact that the saline purgatives cause a desquamation of the upper layers of the intestinal epithelium, and therefore expose a thinner layer of young cells, through which absorption more readily takes place.

When the gastro-intestinal canal is in its normal condition the absorption of ferratin is much less, according to Schmiedeberg, but since the latter's experiments render it impossible to distinguish between the iron of the ferratin and the iron introduced in the food, Marfori proceeded as follows: He administered to the animal a saline purgative, and fed it solely on milk; the lower part of the intestine was also cleared of saline enemata. About a week later ferratin was given in repeated doses. The amount absorbed varied between 11 and 30 per cent. of the amount administered.

With reference to the question whether ill-effects might not arise from long-continued administration of the drug, Marfori found that it was impossible to poison animals by injecting large doses into the blood; nevertheless a man would need to take about two and a quarter pounds of ferratin in the course of a month to produce a similar result, assuming as a basis for calculation experiments on dogs. Since he would actually, however, only receive about one-twentieth of that amount, there is no danger in continued administration of the drug, a statement confirmed by clinical experiments.—*Univ. Med. Magazine, November, 1895.*

P. N. DE DUBOEAY, M. D., F. R. C. S., of Tallula Falls, Rabun County, Ga., Sept. 22d, 1896, writes:

I have used Papine, Bromidia and Iodia extensively in my practice, and expect to continue doing so, as these preparations undoubtedly are of great value. I have found your Iodia specially useful in cases of menstrual disorder generally, and as an alterative. Papine must of necessity come greatly into vogue with the general practitioner, relieving pain as it does without unpleasant after effects. It was of great value to me in treating the pain in a female suffering with (incurable) cancer.

Analgesic and Sedative Effects of Lactophenin.

Dr. H. D. Peterson, in a "Clinical Report on Lactophenin" in the *Chicago Med. Recorder* (August, 1896) says:

Among the newer remedies of this class (analgesics and antipyretics) is lactophenin, one which so far seems to offer the best results with the least ill effects. Clinical tests have shown it to be of especial value in relieving pain and reducing temperature gradually, and maintaining it at a lowered degree without frequent repetition. It is not disagreeable to the taste and is easily administered. The dose is 5 to 10 grains, and 45 grains may be given in a day. In doses of 15 grains it acts as a gentle hypnotic.

The author then reports a number of cases, from which we epitomize:

M. F., aged 37, laborer, suffered for years from periodical attacks of articular rheumatism, often preventing him from working. Lactophenin in 8

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grain doses four times daily completely relieved him from pain; other remedies, especially salicylates, had failed.

Mr. W,, aged 40, business man. Long troubled with insomnia and frontal headache; extremely nervous from want of sleep; a 10-grain powder of lactophenin at bedtime dispelled headache, and sleep followed; no unpleasant symptoms in the morning.

Mr. S., aged 27; periodical attacks of migraine. One 8-grain powder of lactophenin entirely relieves.

Mrs. D., aged 20, housewife; severe headache accompanying typhoid fever. Headache disappeared and did not return after 8-grain dose of lactophenin; no noticeable effect on temperature.

Mrs. B., aged 25; facial paralysis on right side and neuralgic pains on left side. An 8-grain dose of lactophenin relieved the pain and produced sleep.

Dr. Peterson concludes that "where speedy relief from pain is desired lactophenin offers as good results as any remedy at our command."

We are indebted to the bacteriologists for many things, but they have taught us nothing of more practical value than the lesson that a large number of our minor complaints and a thousand-and-one of our aches and pains which make life miserable come from auto-intoxication. The ever-present germs in the alimentary tract manufacture their toxines, and these are absorbed, much to the distress, if not to the actual danger, of the individual. The good old-fashioned theory that you must "keep the bowels open" if you wish to enjoy perfect health thus finds a scientific explanation in these latter days. It is now simply a question of common sense: Keep the alimentary canal free from the poisons of germ life. You cannot do this better than by using California Fig Syrup. It is pleasant to the palate and prompt to give relief.

Pilocarpine as it occurs commercially often contains jaborin and other allied alkaloids and impurities; jaborin acts like atropin, hindering secretion, and its presence therefore disturbs the therapeutic effect of Pilocarpine. The most reliable test for purity is the melting point. The U. S. Pharmacopœia gives 197°C. (386.6°F.) as melting point. Comparative tests recently made in the experimental laboratory of C. F. Boehringer & Soehne showed that Boehringer's Pilocarpine muriate melts at 15°C. above any of the other brands in the market. The best of the competing products were recrystallized, and the esulting crystals then closely approximated the "Boehringer" standard, proving that impurities originally present had been eliminated by the careful recrystallization.

As Pilocarpine hydrocholrate is now more popular than ever before in medical practice, and in view of the delicate uses to which it is put—internal or local, with possibility of toxic effects—physicians and pharmacists should exercise special care to prescribe and dispense only an absolutely pure product. And the melting point test seems to be the easiest applied and most reliable; the product should not melt below 197°C.

The Dios Chemical Co., St. Louis, Mo., will mail free sample of Palpebrine and literature pertaining to same on application. This product will be found useful in the following forms of external eye diseases:

Simple, acute, catahrral, venereal, strumous and chronic conjunctivitis, acute and chronic blenorrhea of the conjunctiva, inflammation of the lachrymal sac, blepharitis, etc. Palpebrine is indicated in all cases where an accurate antiseptic solution of known quality and quantities is required.

Palpebrine is superior in its action to the remedies now in use. It contains all the constituents of aqua conradi, as recommended by the renowned professor of the Vienna University, Ferdinand Von Arlt (see Clinical Studies on Diseases of the Eye, by F. Ritter Von Arlt, translated by L. Ware, page 23). But to these are added a number of other agents which will prove Palpebrine to be of much greater value and giv it a broader field for action.

Hysteria. The manifestations of hysteria are so infinite in number that Tanner has well said, "Hysteria simulates almost every known disease." It so often exists without any pathological lesion and persists after cure of the lesion that the practitioner has no resource but the well-known antispasmodics, anodynes and nerve tonics, which should only be taken at his direction, and which alone in many cases intervene to save the sufferer from the too common resort of opiates. Here Neurosine not only gives prompt relief but offers the best means of cure.

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Selections.

The Passing of the Reflex.

BY PROF. CHARLES L. DANA, A. M., M. D.,

Professor of Diseases of the Mind and Nervous System; Physician to Bellevue Hospital; Neurologist to the New York Infant Asylum and to the Montefiore Home for Chronic Invalids.

An Address on the Reflex Origin of Nervous Diseases, Delivered Before the Clinical Society of the New York Post-Graduate School, April, 1896.

GENTLEMEN: You must be a trifle tired at night of hearing the stories of cases and records of symptoms and points of diagnosis. So I shall beg to take you away a little from the beaten track of your daily clinical studies and engage your attention in rather more abstract themes. Not that the subject of reflex diseases is itself a theoretical one; but I want to discuss its history, its theory and its significance rather than illustrate it with recitals of my experience.

And you will pardon me if, in my discourse, I drop into some unhackneyed phrases or wander away from the narrow and austere course which is proper for a strictly scientific paper. Horace tells us that it is sometimes advantageous *desipere in loco*, and I perhaps shall not be to-night entirely conventional and self-contained in my discourse.

Hope and human sympathy are the exhilarating and helpful elements of life. They give charm to social intercourse, and specifically they ornament and make more effective our art. But, let me add, they ever tend to injure and weaken our science. And the doctor is always in danger from their enticing spell. With their help he cheers his patients, succors his own despondency and is stimulated to new and ingenious efforts; but they distort his judgment, befog his logic and continually swerve him from the path towards the eternal verities which he should forever tread. Hope of curing and sympathy for the unfortunate lead to a continual desire to explain something, to unravel mystery, to detect causes at any cost and do something objective and tangible for disease. When they breed in the enthusiastic mind of persons with a highly technical training and bias they lead to marvelous exploits in surgery and therapeutics and to ingenious and fantastic theories of disease. I do not say all this in order to ask you to abandon these beautiful emotions, but only to indulge in them wisely.

The conception of the reflexes was not the result of any sympathetic sentiment or instinctive feeling. It was the legitimate outcome of careful scientific researches; but the application of the dogma to-day to practical medicine and surgery has become, in a great measure, the expression of a dangerous misconception and misapplied sentiment. The doctor finds himself confronted with a disease which is obstinate and painful. It resists the ordinary therapeutics and the natural remedial power of nature. He feels, however, that he must explain something and that he must do something. With the kindest feelings in the world, he invokes the reflex arc, and, if the pain is in the back, attacks the uterus; if it is in the head, cuts the eye muscles; if it is in the lungs, burns out the nose; if in the mind, he treats the liver, and so in a hundred ways he assails the unknown by annihilating some particular and reachable viscus. I am not admitting that any baser feeling ever enters. Ambition, vanity, the desire to exploit oneself, *auri sacra famos*, the greed of gold, are everywhere, but I do not count it as a factor here.

I do not believe that medical men generally realize how entirely our pathology is bound up and interwoven with conceptions of the reflexes. Three thousand years ago Hippocrates suggested that hysteria was a disease which was dependent upon disorder of the womb, and at the present day the physician cannot rid himself of the idea that the hysterical woman must necessarily have some disorder of that organ, yet facts show that true hysteria occurs in men and in children of both sexes, and there is plenty of evidence to show that women with their pelvic cavities nearly emptied can still have a typical hysterical attack. Marshall Hall, who was the great high priest of the reflexes in the early part of this century, stated that the principal causes of eccentric epilepsy were only three—"The presence of indigestible food in the stomach, the presence of morbid matters in the intestine and uterine irritation." The profession is still profoundly under the influence of such statements.

The theory of reflex action was distinctly recognized by Des Cartes, but it was first brought into medicine by Dr. Robert Whytt, over one hundred years ago. The physiology of reflex action and the importance of it in the phenomena of the body were most diligently worked out, in the years succeeding Whytt, by Prochaska, in the last century, and by Mayo, Marshall Hall, Muller and Ludwig, in this century. It is now almost half a century since the facts regarding the importance of the reflex loop were given to science. Since then the application of these has been given to the practical art of medicine, with the ever-widen-

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ing circles of the alluring but delusive therapeutics. When the history of medicine of this century comes to be written, the reflex loop will be found to be filled with the dangling remains of unsuccessful therapeutical and surgical endeavors like the ropes on wash day in the rear of a New York tenement.

There was once a distinguished surgeon, Dr. Robert Battey, who conceived the theory that the normal ovaries were the starting-point of a large array of chronic ailments, and he reported some fourteen cases of epilepsy cured by removing the normal organ. Not more than two decades ago it was believed that paraplegia could be caused by reflex irritations from the intestines, the bladder and other organs. Literature of the last thirty years has been filled with the histories of reflex neuroses from the ear, from the eye, from the teeth, the nose, the stomach and every organ which could be reached by the instrument of the surgeon or the manipulation of the physician. We read of reflex amblyopia, reflex deafness or reflex epilepsy, paraplegia, chorea, tetanus, aphasia, neuralgia and headache.

There is already some reaction, but I have a feeling that there is yet much misconception of the matter.

It is my desire to-night to present to you what I conceive to be the true position the physician should take in regard to the importance of these reflex impulses, and you will see that, while I do not ignore their value, I want especially to impress upon you the importance of attacking in your therapeutics the centers of the disorders rather than of nibbling away at its outer edge. If you are going to make a fruitful and luxuriant growth you need much more to water and till about the roots than to prune and graft the branches. This is the purpose which I hope to make you feel underlies my discourse.

My first, and perhaps my chief, general proposition is this, that there are no reflex constitutional neuroses. By this I mean that those neuroses which are general in character, and which are classed by systematic writers as constitutional, are not dependent upon reflex irritants, and cannot be cured by attacking these. Such neuroses are, in particular, chorea, the functional spasms, such as convulsive tic, epilepsy, paralysis agitans; even hysteria of the true, the major, type, as I have described it in my lectures here and in my text-book, is never dependent upon a remote local irritation. Spinal irritation, in its typical form, and the neuralgias of a constitutional or degenerative type, such, in particular, as migraine in early life and the tic douloureux of middle life, may be added to the list.

Let me now take up some of these in turn, and give you more specifically the evidence in support of my statement.

Chorea.—There are few physicians who still maintain chorea is a reflex neurosis. A certain limited number, however, do assert that, by proper treatment of the eye muscles, the chorea can be cured, and, particularly, those forms of chorea which are more properly classed with the convulsive tics, or which are often known as "habit" and "chronic" choreas. So far as those muscles which are intimately associated with the movements of the eye may be reflexly kept irritated and in a state of mobile spasm by eye disease.

Epilepsy.—As for epilepsy, it will, I think, be a great relief to some and a great shock to the traditions of others to be assured that true epilepsy is always a central disease. It is not caused essentially by reflex irritation, and it is not cured by treatment of the eyes, or nose, or teeth, or stomach, or bowels. It is not cured by taking out the ovaries, or by removal of the uterus, or readjustment of the kidneys, nor even by phimosis, or by removal of the appendix. You will find in literature a good many cases in which epilepsy is alleged to have been caused by some scar or bite, by the presence of worms in the intestine, or by a blow upon some part of the body, and there are cases in which cures have been reported from cutting off the scar, removing the worms or the offending body or organ. It is very interesting and instructive, however, to note that these cases increase in number the further we go back in literature of medicine, and that, with each succeeding year, their number in current literature diminishes. For my own part, in a list of epileptic cases which numbers over three hundred, I have never come across any such instance.*

It will, I think, be found that nearly all cases of remarkable cures from removing some local trouble are either temporary or that the central trouble is not true epilepsy or has not fully established itself as such.

Let me be distinctly understood, however, upon

* Dr. Emmet cited a case of epilepsy cured by excision of a cicatrix in the cervix uteri. Dr. Weir Mitchell tells me that he can recall three cases of epilepsy in the total range of his life experience apparently cured by removal of a local irritant. He tells me, however, that he thinks the views I here lay down are essentially correct.

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this point. Given a person of epileptic or convulsive tendency, a neuropathic individual, then by some blow or injury or eccentric irritation I grant that a convulsion may be produced. This convulsion may be repeated for a few times, and then, if the cause is removed, it may subside. But, in this instance, the individual has not yet developed true epilepsy. He has simply suffered from some symptomatic convulsions. In the vast majority of cases, however, even if the cause is removed, the injury has been done, the disease has begun, and its cure is only effected, if at all, by a general treatment. In epileptic persons the nervous balance is very delicate. The instability of the brain cells is such that a very slight cause will tip them over, so to speak, and a convulsive discharge will result. Now, when this exists, it is imperative that all reflex excitants be removed as much as possible, and, if this is done, the number of attacks will be lessened, but they will not be stopped. We can, therefore, often moderate the severity of epilepsy by treating the eyes, the stomach, the pelvic organs, and by doing everything else which will lessen the eccentric irritation of the nervous centers. But to cure the case we must find something which will make the brain cells more vigorous and will stay the progressive tendency to degeneration that is the inherent element in the disease, for epilepsy is really a progressive degeneration of the brain cells. They are endowed with feeble vitality, they are over-irritable, they constantly break down and explode, and it is these invalid cells that must be nourished and looked after, not the eyes, or the nose, or the teeth, or the stomach.

As to the reaction of epilepsy and eye-strain, it may be known to you that several years ago a committee of the New York Neurological Society examined into this subject, their investigations extending over two years. They reported that they could find no evidence that treatment of muscular or refractive defects of the eyes caused either epilepsy or chorea.

Noyes, who views this subject with a liberal mind, says in his text-book that "in a few cases eye-strain may have been an exciting cause, but there has been behind it a deeper lesion of the nervous system."

Every year, says Gray, there is a case of epilepsy reported cured by the removal of a tooth. But, he adds, no one believes that the *fons et ongo mali* is a peripheral irritation.

Lusk asserts that the performance of normal ovariotomy for epilepsy is to be regarded "as hardly better than malpractice."

Neurasthenia.—There have been periods in the history of this disorder when all neurasthenia was thought to be due either to eye-strain or uric acid; there was a time also when hypochondriasis was thought to be a matter of constipation and the liver. It is not worth while taking up your time now in refuting these views. For, while it is acknowledged that they may all be factors in breeding nervous symptoms, there is something behind them that is more important, and that is a naturally defective or exhausted nerve center. I have seen neurasthenics vastly improved for months by tenotomy of the eye muscles and by washing out the stomach and careful attention to diet; but when the condition is in anywise a fixed one these measures alone are ineffective.

A great deal of help can be given sometimes to neurotic and neuralgic women by scraping the uterus, sewing up tears and replacing the dislocated organ. But often it is the rest in bed and relief from care, as much as the operation, which helps when help is really given. As for the results of more serious surgery, Playfair cites a number of cases in point, and asserts that the removal of the appendages "is not a legitimate procedure in case of purely functional neurosis."

Spinal Irritation.—Women with pain in the back are often relieved by treatment of the pelvic organs. There is a disease, however, known as spinal irritation, in which the whole back is painful and sensitive; the patients are nervous, neuralgic, have headaches, are easily exhausted and show signs of hysteria and neurasthenia. Here the trouble is constitutional in part and local in part, but it is not a uterine, or ovarian, or gastric or renal reflex. These patients are helped by sthenic measures, gymnastics, braces and counter-irritation. They need not have their kidneys pinned up nor their appendix resected, the clitoris freed from adhesions, nor the uterus and its ovarian allies removed.

Insanity.—It would be going too far for me to discuss the question of the reflex origin of insanities. No doubt reflex irritation is one factor in some puerperal and menstrual psychoses. But hereditary tendencies, autotoxæmia and other agencies are much more powerful. Personally, I do not meet insanities which are due to reflex irritation, nor do I find any case cured by local treatment, though my friend, Dr. Wylie, states that he has had such.

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I admire immensely the surgical skill and daring of the present day. Its effect, on the whole, has been enormously beneficial. But I would remove from its aggressive enthusiasm the reflex arc. This arc is a physiological, anatomical fact of such intrinsic beauty and vital importance, but we have made of it a rainbow of seductive and unwarrantable promise, with an occasional pot of gold at one end. The new woman is especially imperiled. She used to have to watch the hymen; now she must look out for the appendix, the adnexæ and the mobility of her kidney with as much care as if they were her cardinal virtues.

As I admire the surgeon, the gynæcologist, neurologist, and the specialist in general, so I would say a word for the reflex as well as against it. The reflex is an excellent thing, and not in the least to be ignored. It warns and wards us against danger, it is the safety of our automatic life, it regulates our secretions, it steadies our circulation, and it is ever building itself up into combinations that protect and conserve the higher machinery of life. But in the evolution of man the part played by the reflex becomes relatively smaller and smaller. The amœba is all reflex; man is mostly made of automatic and conscious life. The activity of the lower animal is constantly and almost wholly guided by the changing stimuli that impinge upon his body and arise in his viscera. But man's life and actions are most influenced by causes that are centric, by the stored-up impressions in the brain. The higher in evolution, the less important the reflex in essentially modifying life. Compare the daily movements of a rational human being and that of his dog, and see if I am not right. If you take a frog and strike a smart blow on its epigastrium, you can cause the heart to stop. This is a reflex act, which does not occur except in a slight degree in higher vertebrates. Levisson exposed the kidneys in sheep and found that by severe compression of them he produced paraplegia; he brought about the same result by squeezing the uterus. Veterinarians report cases of paraplegia following injury of the testicle, and many physicians must be familiar with the posterior paraplegia that occurs in horses after severe wetting and exposure. These cases may be, and probably are, reflex and functional conditions. But they do not occur in man. He has risen a step higher, and his inferior extremities are no longer easy slaves to his cutaneous and visual impressions. The mind-stuff is the important thing in man, the medulla-stuff in the animal. The new man and the new woman are evolving away above the reflex loop. It is the only hope of the angleworm that this be preserved, but it is a reaction to lower types for man to be subject to it. Do not hope, therefore, to cure disease by removing the irritant from a sensory end organ. Remove it, of course, but do not believe that you are then done.

Gentlemen, I have, perhaps, spoken too lightly of the importance of peripheral irritation, of a loaded stomach, an astigmatic eye, a displaced uterus. Pray do not misunderstand me; I wish only to make you feel that the man is greater than his parts; that to study his general condition is better than to squint into any particular viscus. I have seen migraine restored by glasses, vertigo cured by removing wax from the ear, intense spinal pains relieved by replacing the uterus. I have seen wretched neurasthenic women made over by gynæcological operations, and I render in full my sense of the obligation of medicine to its special workers. But I repeat again that fixed diseases are never cured by treatment of reflex irritation. There are often reflex pains, reflex spasms, reflex mental disturbances; there are reflex symptoms many and important, but there are no reflex diseases in any true and serious sense of the word. If I have succeeded in impressing this upon you, I believe you will be better physicians and more learned and clear-sighted men.

Gentlemen, hope and tenderness and sympathy are beautiful things. They inspire and make glad our lives, and they stimulate us to try to cure our cases when we should know that we can't do it. Thackeray once said: "Fun is good, truth is better still, but love is best of all." For us, as men perhaps, but as practitioners of medicine, truth is best of all, and we should try to accept it and be guided by it.—*Post-Graduate.*

A Few Practical Points in the Treatment of the Commoner Diseases of the Stomach.

By Boardman Reed, M. D., Philadelphia, Pa., and Atlantic City, N. J.

Read before the Atlantic County (N. J.) Medical Society, September 16, 1896.

The most common gastric affections are the catarrhal inflammations, morbid variations in the character of the gastric juice, atony of the muscular walls with or without dilatation, and, in women especially, as a consequence of their irrational dress, displacements of the organ downward.

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In the treatment of the catarrhal inflammations, whether acute or chronic, the selection of a bland and unfermentable diet is of the first importance. This is an indispensable condition. Patients who cannot or will not control their craving for sugar, highly-spiced viands, or foods fried in fat, might as well be told at once that their cases are hopeless.

Next in importance in these catarrhs, when they have become chronic or are verging into that condition, is washing out the stomach, whether it be upward by lavage or downward by copious drinking of hot water variously medicated or flavored. This washing of the alimentary canal downward with abundant hot water is an American innovation, though analogous to the Carlsbad cure. Like the latter, it is very useful in appropriate cases when carried out under the observation of an experienced physician and not too long continued. But, like the Carlsbad cure again, it does great harm in cases which are not suitable for it.

There is a widespread notion that hot-water drinking as a method of cleansing the stomach is safer and milder than lavage, but this is for many cases a serious error. It not only fails, but makes matters worse in the frequent cases where the catarrh is complicated with dilatation, or even with much atony (deficient motility), precisely the class of cases in which help is most urgently needed.

Here the hot water does not wash out or cleanse to any useful extent, since the organ is too weak to force it onward into the bowel, or, at the best, does this very slowly and imperfectly. During the retention of the water for many hours in the stomach the bulk and weight of the contents are increased by the addition of the food necessarily taken. Thus the organ is being continually over-distended and over-burdened, with the result of aggravating the atonic condition—increasing any existing dilatation, or producing it when there was only weakened motility before. And the more dilatation, the more stagnation, fermentation and gastritis.

Such a vicious circle can be broken up and any satisfactory improvement effected only by introducing small quantities at a time of hot water medicated with some appropriate antiseptic drug, and then quickly withdrawing it by syphonage. Unlike drinking largely of water, this cleanses the stomach and medicates its diseased membrane without over-distending it.

Indeed, in all the cases of markedly weakened gastric motility, whether the organ be dilated or only in danger of becoming so, our duty is to protect the stomach in all ways from overloading. Such patients should eat little at a time and often, and should partake sparingly of fluids.

When the motor function is normal, the propulsive power being equal to the task of emptying the viscus within the normal limits—two to seven hours, according to the size and character of the meal—any existing catarrhal process may be safely combated by drinking hot water, if care be exercised that the water is not taken within the hour next preceding the meals.

It is well to add from five to fifteen grains of bicarbonate of soda to each glass of hot water, except where the analysis of the stomach-contents, after a test meal, has shown much deficiency of hydrochloric acid. Such a deficiency is the usual condition found in old chronic gastric catarrhs. In these cases phosphate of soda or common table salt may be used instead.

I have often had patients try this drink cure with fairly good results in appropriate cases. But in my earlier practice, before I had learned to differentiate my cases, the results were not often satisfactory. Especially unfortunate were some of my trials of the prolonged administration of soda in hot water before meals in unsuitable cases, in which neither an analysis of the stomach-contents nor any tests of the motility had been made.

It is highly important that we should be able to measure the propulsive energy of the stomach walls without introducing the tube or other intra-gastric instruments, since the use of these is sometimes impracticable.

Ewald's salol test has long since been abandoned in Germany as unreliable. I have recently called attention* to the possibility of ascertaining by percussion and the splash when the stomach has emptied itself, and of thus testing the motor function of the organ by a method which is simple and not vexatious to the patient. The determination of the boundaries must first be made, and to do this accurately by means of the clapotement and percussion requires much practice, but, once these boundaries have been established, it is easy in most cases, by the absence of dullness over the most dependent portion of the

*The Diagnosis of Changes in the Size, Position and Motility of the Stomach in Cases where Intra-gastric Instruments cannot be Used.—*Medical News*, January 18, 1896.

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stomach while the patient stands, to ascertain that the viscus is empty. On the other hand, a splash within the stomach limits, or dullness there elicited on percussion in the erect posture, proves that some of the contents still remain.

By repeating this test at different intervals after meals, the motor power of the stomach may be measured with at least as great an approach to exactness as by any other method, except possibly Leube's plan of emptying the contents with the help of a tube six to seven hours after a full meal.

The downward displacement of the stomach (gastroptosis) from which a few men and a large proportion of women in all the walks of life are suffering, is very generally overlooked. Of fifty stomachs examined in my office (in Atlantic City) during the months of July and August, 1896, just one-half were found to be displaced, most of them so far downward that the upper border was at or near the lowest rib in the left parasternal line, while the lower border was below the umbilicus. These examinations included a careful percussion of the abdomen with the patient first recumbent and afterward standing, and before and after drinking one or more glasses of water. Clapotement was also practiced in every instance in order to elicit the splashing sound as a confirmatory sign. In the most difficult cases the results were further confirmed by either inflating the stomach with air, or by introducing a small electric light inside the stomach and noting the illuminated area in a darkened room. In a considerable proportion of them lavage was also done, and thus additional corroborative evidence obtained as to the position of the lower border of the organ.

During the period mentioned numerous other similar examinations were made of patients at their residences or hotels in Atlantic City, but the records of these, being incomplete and less accessible, have not been included.

Of the fifty mentioned, twenty-two were men and twenty-eight women. Only four of the twenty-two men, or eighteen per cent., had displaced stomachs, while twenty-one of the twenty-eight women, or seventy-five per cent., presented this deformity. This is certainly a most significant evidence of the need of dress reform.

The dislocated stomachs had, in most cases, been pushed and dragged down into the lower abdomen or pelvis, carrying with them usually the transverse colon, and, in a majority of the cases, one or both of the kidneys.

Well-fitted abdominal belts will usually mitigate some of the consequences of these displacements. The resulting constipation is best overcome by diet, massage, and exercise of the trunk muscles. The concomitant floating kidneys in the worst cases need to be anchored in place by an operation.

Variations in the gastric juice are very frequent and full of importance. Hyperchlohydria, or excess of the hydrochloric acid, is exceedingly common, and the results are often most afflicting and far-reaching. The treatment demands a careful use of alkalies, improved hygiene, a non-stimulating diet, change when practicable to some invigorating climate, such as that of the seashore or mountains, and all roborant measures except stimulant or tonic drugs by the mouth. These last generally aggravate the hyperacidity. The constipation which usually results will often yield when the gastric glands have been restored to their normal condition. Such cases never need pepsin, of which they have an excess, but, as a rule, they digest starch imperfectly, and may take the preparations of diastase with advantage.

The contrary condition of diminished or absent hydrochloric acid will often improve astonishingly when the latter drug is administered in good doses at frequent intervals after meals. Even in these cases there is usually pepsin enough when the deficiency of hydrochloric acid has been supplied, but exceptionally the pepsin and rennet ferment are also deficient, when they should be furnished the patient artificially.—*Medical and Surgical Reporter.*

Hay Fever; The Best Treatment for Stay-at-Homes.

By WILLIAM CHEATHAM, M. D.

Professor of Ophthalmology, Otology and Laryngology in the Louisville Medical College, etc., etc., Louisville, Kentucky.

"Hay Fever," as a name for the affection with which it is associated, is, we all recognize, a very defective one. I use it because I know of no better.

In the few remarks I propose to make upon this affection, I suppose all local causes of nasal stenosis and irritation to have been removed.

The cases I report will be mostly those that have been under my observation for one or more seasons, unable for different reasons to visit the usual resorts of "hay fever" sufferers, and who have had all forms of treatment with no permanent relief.

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Mrs. H., married, housekeeper, age twenty-four years, no children, has had "hay fever" for six years. This is the third year I have treated her. The trouble began this year as usual, August 15th. I saw her August 17th. The nasal symptoms were well advanced, and the eye symptoms just beginning. As in the two previous years, in which she had been under my observation, I gave her syrup hypophosphites early in the summer. I gave her August 17th a small capsule of valerianic ether to prevent any ill effects from the cocaine solution with which I sprayed her nose. The cocaine, of course, shrinks all engorged tissue, and produces local anesthesia. I then twisted on a slender nasal applicator some absorbent cotton, and dipped it into a 50% solution of chromic acid; this I applied the full length of both inferior turbinal bones, the lower half of the middle turbinals, and the lower two-thirds of each side of the septum. In two or three minutes I washed the nostrils well with an alkaline solution, and sprayed them with a mixture of eucalyptol, camphor, cocaine (alkaloid), and vaseline. I gave her a wash to use so long as the secretion was excessive, containing aqua eucalyptol, aqua camphor, and distilled extract hamamelis, equal parts; under this treatment the symptoms were much worse that day, but better the next. This treatment occasionally has to be repeated once, very occasionally twice, during the season. I afterwards gave Mrs. H. valerianate zinc and extract nux vomica. This treatment usually prevents the asthma and cough. Should the latter cause much trouble, I find nothing proves so harmless and so effective as codeine phosphate. So far this year she is quite comfortable.

Mr. G., railroad manager, had his first attack September, 1894. This year it began August 10th. I saw him first August 14th, 1896. His general health seems to be good. I found him suffering very much, unable to attend to his business, could not sleep at all, nose completely occluded, no asthma or cough, but his eyes disturb him very much. After cocainizing his nose thoroughly, I found no hypertrophied tissue, but the nose very narrow and the turbinal bones very small. I made an application of a 25% solution of chromic acid and washed it out well in a few minutes with an alkali; then used the vaseline mixture in a spray. I gave him the same wash Mrs. H. is using, giving him also zinc phosphide and extract nux vomica internally. He reported next day much improved; had slept well. This improvement continued until Friday, August 21st, when he reported with an exacerbation; another application of the acid was made, since when he has been quite comfortable, attending his business without trouble. His eye symptoms persisted a few days, when I gave him acid boric, ʒii, aqua camphor and aqua rosa, *aa* ʒiii, distilled extract hamamelis q. s. ʒviii, as an eye bath; he used it in a glass eye bath four times a day and soon got relief. He complained of little or no discomfort from the acid.

Mr. G., a contractor, has had the above treatment for four years, with entire relief. Before I began treating him he had to leave the state every summer. I removed some hypertrophies from both nostrils and a ridge of bone the first year I treated him. Mr. G. works in a great deal of dust. He commences early in the spring, as he has mild "rose fever," on the zinc phosphide and extract nux vomica, and the wash of eucalyptol, hamamelis and aqua camphor. The acid application gives him one day of discomfort, after which he returns to his work in dust and dirt with no discomfort. He uses the eye bath also.

Mrs. H., married, weighs 253 pounds; has a baby about once a year; has asthma about one-half of the year; has violent exacerbations which can be relieved by weak chromic acid applications to the nose, and phosphate of codeine internally. During "hay fever" season Mrs. H. has one and sometimes two applications of the chromic acid, which give her great comfort. She uses the wash previously mentioned and valerianate of zinc; this latter I have been using in these cases for some years, with great benefit, I think; I sometimes give the three valerianates.

So far this season I have had but one patient, a Sister of Mercy, who has not gotten relief from the treatment given above. She came in late in the season, with asthma and a bad cough. I had never treated her before. Her nose is exceedingly contracted; healthy turbinals nearly produce total stenosis. With the slightest engorgement she cannot breathe through her nose at all. Cocaine will not reduce this engorgement now. I refer to the case as one impossible to relieve without the aid of surgery.

Only Sunday last—September 6, 1896—Mr. G., a merchant, who has just returned from a trip to Alaska, came to see me with an attack of "hay fever." This is the third year I have treated him. I made the chromic acid application, and have

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seen him twice since; he is much improved. It has always relieved him before.

September 1, 1896, Mr. S., of Augusta, Ga., called to see me, suffering intensely with "hay fever." I never saw a man more uncomfortable. No asthma, but head symptoms well marked. He has had "hay fever" for fifteen years. I gave him the usual treatment, and that same day he was called to New York on business. For four days and nights he was so uncomfortable he could neither eat nor sleep. He stopped all treatment, both local and internal. From a description of his symptoms he afterwards wrote me, he must have had mild sepsis. After the fourth day he began to eat. An extract from his letter, given below, shows the progress of his case from that date. His right nostril is nearly completely occluded by a deviated septum. I advised a correction of this.

Mr. S. writes September 9th as follows:

"I have not sneezed as many as half a dozen times in any one day. I have no itching sensation in the eyes, ears or nostrils, and I sleep at night without discomfort, and as a healthy man should do. I breathe freely through both nostrils; the discharge of clotted blood and mucus has greatly diminished, and the bleeding of the right nostril has almost entirely ceased. Ordinarily, this is the time that the fever is reaching its climax. I do not know whether it is coming back or not. It almost passes belief that I am free of it at this time."

For the asthma I have found ten or fifteen grains of bromide or salicylate of quinine at bedtime gives great relief. Also glyceride of hydriotic acid is very good. When there is a gouty element urotropine is of service. Mixtures containing lobelia, the bromides and the iodides are of much service; of course when the asthma is very severe, morphia and atropia act very promptly.

To summarize, then, for "hay fever" sufferers who have to stay at home, I believe greatly in constitutional treatment, such as the valerianates, the hypophosphites, zinc phosphite, anti-rheumatics, and in the correction of any gouty element.

Locally, the removal of all causes of nasal stenosis and irritation, with persistent cleansing with mild saline, acid and alkaline solutions. Just before, at the beginning, or in the midst of the season, I apply, as given above, chromic acid, and follow this with such medication as indicated in the body of this paper. But few of my patients have any discomfort, except for a few hours, from the treatment, which occasionally has to be repeated, and they are thus enabled to stay at home and attend to business with very little or no discomfort. The chromic acid, as in Mr. S.'s case, sometimes gives great discomfort. Much of his discomfort, though, came from his neglect of treatment. Even with this four or five days of discomfort the result of the treatment more than counterbalances the many uncomfortable days of the "hay fever" sufferer, if a stay-at-home.—*The Laryngoscope.*

The Employment of Gauze in the Uterine Cavity.

By JOHN H. RISHMILLER, M. D., MINNEAPOLIS, MINN.
Ex-House Surgeon to the Woman's Hospital in the State of New York.

The employment of gauze in the genital canal in women has attracted my attention for the past three years, and during this period I have missed no opportunity of investigating this subject. I wish to consider gauze as utilized, first, as a uterine drain, and, second, as a uterine tamponade; its judicious and injudicious employment, and the effects we may expect directly or indirectly from its use.

For drainage to be effectual it must afford a ready exit for the secreted material, and so prevent reabsorption. Many operators invariably tamponade the uterine cavity with gauze, and some perform the identical process with the cervical canal, while others simply insert a narrow strip reaching into the uterine cavity and protruding from the external os by several inches. But how many are contented without gauze insertion? None if it were always accessible. Our German *confreres* in a measure have discarded gauze introduction into the uterine cavity subsequent to curettement, and it seems to me the ideal and most rational process. I am firmly convinced of the fallacy of packing the uterine cavity in aseptic cases that have no functional disturbances. Furthermore, I invariably have noticed a gradual rise of temperature after thirty-six or forty-eight hours, no matter how scrupulously antiseptically my work was executed or how aseptic the cases I was dealing with. Experience has demonstrated that *the average temperature after curettage is lower without than with gauze packing.* Why, therefore, are we employing gauze tamponade so promiscuously without more forethought?

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It is not my purpose to decry the invaluable therapeutic agent gauze, but, on the contrary, to maintain that it is indispensable in all forms of surgery, provided we employ it discriminately and not mechanically, or in a routine fashion. Permit me to ask a question: Why do we tamponade the uterine cavity and canal and speak of it as uterine drainage? In tamponing, the uterus is stimulated to contraction, tending to expel the gauze through the cervical canal, and by so doing it presses the gauze over the internal os, forming a plug, which dams back the secretions. The wedge of gauze, if I may term it such, is always covered with a thick tenacious mucus tinged with blood, and resembles uterine catarrh secretion. This gummy mucus is the result of uterine irritation and inflammation, kindled by the presence of a foreign body. On examining the gauze after its extraction, we readily distinguish between the part which has been in contact with the uterine walls and that which has been in the interior of the tamponade. As the meshes are thus occluded, it is evident that no drainage can percolate through the gauze, and whatever secretion exudes from the cervical canal escapes between the walls of the uterus and the ball of gauze. Now imagine a uterus tamponed for thirty-six hours or longer, the upper space of the corpus uteri occupied by mucous or septic matter, as the case may be; on uterine contraction, this fluid seeks the place of least resistance, and what is the result? It is forced into the Fallopian tubes, lymphatic sinuses, blood vessels, etc. If we are treating a pure aseptic case no bad results can follow; but suppose we have a septic one, or our antiseptic technique has been imperfect, then we can aptly comprehend how a rise of temperature is produced. Many patients have developed after curettage salpingitis and pyosalpinx, which has been erroneously attributed to the improper use of the curette. This is an absurdity; it was produced by indiscreet tamponade of the uterus, thus hindering the egress of secretions through the natural passage, but favoring it through the unnatural one—viz., the ostium uterinum. In puerperal cases it is even more imperative to bear this in mind, because we are encountering enlarged Fallopian tubes, sinuses, etc. The less we tamponade in septic puerperal cases the more tubes will be saved from the necessity of ablation. *More cases of pyosalpinx are produced from the injudicious use of uterine-gauze tamponade than from the use of the curette.*

It has been maintained that the uterine canal is held patulous by the gauze, and permits egress of the secretions. This is fallacious; on the contrary, the os is plugged with the gauze. This fact I have demonstrated over and over again, and the same must be true with your observations. For instance, on inserting a speculum and then withdrawing the gauze, we always observe a gush of mucus—septic or non-septic—coming from the cervical canal. Serum will always drain from the uterine cavity, with drainage or without drainage; but the cases that validate or invalidate uterine-gauze tamponade are the septic, both the puerperal and non-puerperal. In the former we frequently observe fragments of decidual membrane, sloughing tissue, fœtal *debris*, etc., expelled subsequent to the gauze extraction. Another circumstance to verify that the uterine cavity and canal is a better drain without than with gauze is confirmed clinically; on extracting the gauze after curettage, where a rise of temperature has been observed, the fever will, as a rule, immediately abate. We have no better drain than the cilia, and by packing we impede the ciliary current.

In puerperal sepsis with effete retained material, emptying the uterus thoroughly and following with a tepid antiseptic irrigation, loose insertion of gauze into the uterus, which is to be extracted in six to eight hours, favors the removal of effete gummy matter by adhering to the gauze. The longer we allow the gauze to remain the more it loses its usefulness as drainage by the interstices being occupied and blocked by a fibrinous deposit and cast-off cells, the gauze acting like a filter. Too strong germicidal solutions for irrigation act as a caustic, and produce suppuration, which serves as a culture medium for the unremoved germs, some of which remain, no matter how thoroughly we accomplish our work. If we accept the hypothesis that "the endometrium is not a mucous membrane, but is a lymphoid structure lining an embryonic organ," then we are considering structures which possess vital absorptive properties far more active than any mucous lining in the body. These lymphoid structures of the uterus are directly continuous with the innumerable lymph channels between the layers of the broad ligaments, and thus septic virus easily enters the portals of the general system. I wish to emphasize the using of *tepid* instead of hot uterine irrigation in all septic cases, for the reason that the capillaries and sinuses in the uterus are loaded with septic matter, and hot irrigation will cause

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these to contract, thus forcing the poison into the system, and hence the invariable chill following such a procedure. On the other hand, a tepid irrigation will dilate the mouths of the capillaries, sinuses, etc., thereby promoting the emptying of the virus into the uterine cavity. This is accompanied by a slight bloody coloration of the irrigating fluid and a decrease of all septic symptoms.

Another too frequent employment of gauze is in the repair of lacerated cervices. The originator of trachelorrhaphy, Dr. Thomas Addis Emmet, does not insert gauze into theuterine canal after the performance of this very important operation. In fact, he condemns it *in toto*. We encounter lacerations which have been productive of the fungosities and catarrhal inflammation of the uterine mucous membrane. Here dilatation and curettage prior to trachelorrhaphy is absolutely essential for a cure.* It is claimed that a strip of gauze in the cervical canal will keep the denuded surfaces separated if overlapping, and prevents coaptation and union. We need not fear occlusion, provided we have left a central line of undenuded mucous membrane. It is unquestionably difficult to retain the gauze exactly on this central line; furthermore, the extraction will more or less disturb the parts in apposition.

I disapprove of gauze introduction into the uterus after curettement for gonorrhœal endometritis, on the principle enunciated that it is a prolific cause of pyosalpinx. An antiseptic vaginal dressing is highly commendable for the purpose of keeping the rugosities separated and serving as a surgical dressing.

I have directed your attention to the evil of using gauze without forethought; but now let me merely mention the maladies where firm uterine tamponade is destined to produce marvelous results. In sterility, depending upon flexion of the uterus, where the lumen of the cervical canal is narrowed and bent on itself or tortuous, accompanied by dysmenorrhœa and other functional disturbances, thorough tamponade after dilatation of the cervical canal and curettage of the corpus uteri will uniformly be followed by unusual amelioration of all symptoms, and in some cases absolute cures. The cervical canal should, in all instances where we are seeking to keep the canal patulous, be tamponed as thoroughly as the uterus. If this is neglected in even the minutest detail, we are not accomplishing our desired object. The gauze should be left *in situ* for a week, or as long as the temperature will permit. Tamponade is invaluable in uterine hemorrhage, when the muscular walls are flabby and inert, serving as a stimulus and causing the uterus to contract for the expulsion of the foreign body. Intra-uterine fibromata may be encouraged to enter the cervical canal by frequent repeated uterine tamponing, and ultimately require excision. In some cases with sluggish circulation of the pelvic viscera a thorough tamponade will tone up the vessels and induces their emptying. The absorption of parametritic exudation is favored by thorough tamponade; likewise phlegmatic nodulations in the broad ligaments, and boggy congestions immediately involving the surrounding structures of the uterus, are much relieved by uterine packing.

Operators are at variance as to what gauze is the best and how it should be prepared. They are as inharmonious with their theories as the gauze differs in its texture. The cross threads of gauze impede drainage, and, if manufacturers could supply us with gauze similar to lamp-wicking, we would have advanced one step toward possessing an ideal drainage. Theoretically, we should employ the finest gauze on the market, since the activity of capillary movements varies inversely with the diameter of the capillary tube. For my purpose I use the dry-sublimated (1 to 2,000) gauze or a ten-per-cent. iodoform gauze. This is to be cut into narrow strips one-half to one inch in width, varying with the conditions to be treated. The most important requirement is the absolute sterilization, which should be done with dry heat immediately preceding the operation. Under no assurances would I rely on the gauze which has been sterilized by manufacturers. Do your own sterilizing, and then you know what you have.

From the facts presented I wish to deduct the following conclusions:

1. The uterus should not be tamponed in aseptic cases unaccompanied by functional disturbances.

2. Firm uterine-gauze tamponade does not promote drainage, but, on the contrary, favors retention.

3. In trachelorrhaphy and amputation of the cervix, uterine gauze insertion is a hindrance to coaptation, and on extraction a disturbance to primary union.

4. In septic cases, both puerperal and non-

* Dr. Emmet never curettes the uterus at the time of operating for laceration of the cervix.—EDITOR.

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puerperal, very loose gauze insertion into the uterus, which is to be removed within six to eight hours, is highly commendable.

5. In functional disturbances of the uterus depending upon flexion, mural neoplasms, and impeded circulation, thorough tamponade is invaluable.—*The American Gynæcological and Obstetrical Journal.*

New Mexico as a Health Resort.

By Geo. M. Kellogg, A. M., M. D., Chicago, Ill.

Read in the Section on State Medicine at the Forty-seventh Annual Meeting of the American Medical Association at Atlanta, Ga., May 5–8, 1896.

The Rocky Mountain region, especially the mountains and the upland plains of New Mexico, is a land lifted up by nature into the pure serene for the general invigoration of the race. New Mexico belonging to the Rocky Mountain crest, its eastern slope and a larger portion of Arizona belonging to their western slope, has perhaps the most equable climate known. There are no extremes of winter cold or of summer heat, while there is a notable absence of dampness in air and earth. Little moisture is left for this region after the hot winds of the Southern Pacific are wrung dry by the coast ranges. The elevation of this country, from four to eight thousand feet, is just sufficient to prevent that oppressiveness of summer heat which otherwise would be severely felt in these latitudes from 32 to 37 degrees north. The winter months throughout this region, owing to the ever-present sunshine and the positive shelter of the mountains, afford the most satisfactory retreats for invalids.

The purity of the air is shown by the absence of atmospheric dust and disease germs. Its notable clearness over the plains has been remarked for many years. Objects are clearly seen at great distances which in ordinary atmospheres would be hidden by fog and dust. The sun is visible nearly every day of the year and often for months without a cloud-fleck to obscure its radiance. The sun's heat is really grateful instead of oppressive. The native, when enfeebled by illness or age, basks in the sun. It is the best medicine that he knows. It renews his youth by renewing life at its springs. The invalid or valetudinarian feels at once the mild stimulus. Simply to breathe the air seems a luxury and a delight.

A noted peculiarity of this upland country is the coolness of the nights, even in the extreme of summer. The earth heated by the sunshine freely radiates its surplus at night, there being no blanketing clouds to intercept or confine. Uninterrupted and balmiest sleep is thus insured, bringing healing on its wings, while the absence of insects to torture is an additional security. It is certain that change of climate as a curative measure, promising though it be, requires means in abundance to secure its best results. But, as though nature were willing to bestow her best resources on the poor as well as the rich, the benefit of this climate is open to all at a minimum of cost. The least expensive structures afford ample security and shelter at all seasons. Nourishing food can be obtained on an average at its cost at our great population centers. Fuel, too, cheap and abundant, is largely unnecessary where the sun's largess is so ever present and grateful. Not to mention the beautiful and abundant building stone, the Mexican adobe houses are delightfully cool in summer and warm in winter. These can be made with materials at hand, or by larger outlays can be constructed as luxurious as could be wished. Along the leading routes of travel such might be conveniently located, and nowhere be more than an hour from skilled physicians and needed supplies. While the elevations of New Mexico from four to eight thousand feet all possess the same general climatic features, each altitude has some especially desirable quality. The plains are more uniformly dry and their winters are less vigorous than in or near the mountains. In all these sections the atmosphere has the same characteristic clearness save for occasional dust storms. The mountains catch the greater part of the rain and snow, and furnish the chief water courses and supplies for irrigation, etc. The summer rains from July 15 to September are chiefly seen in the mountains and are usually transient. In the plains they are much less frequent, and there is an almost entire absence of dew. Nature, as though to confound the wise, shows vegetable life in hundreds of native species flourishing in the plains with wonderful healthfulness, unvisited by mold fungus and vermin, so inimical to plant life in damp regions. The cryptogamous plant world which elsewhere sends its spores and disease-producing germs across the world, is almost unrepresented in the mountains and plains. Fungi, mosses, ferns, lichens and liverworts, which thrive so signally in the damp and dark, find small encouragement in the sunshine state. The experiments of Tyndall to demonstrate the

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purity of the atmosphere in Alpine glaciers can be repeated most satisfactorily in the plains and foothills of the Rocky Mountains at an elevation of from four to six thousand feet. At such elevations in the plains putrescence is almost impossible. The ordinary ranchman knows he can, with impunity, hang his venison or beef under a tree or shed for weeks even in the summer. The manifold vermin of the infusiorial and insect world are not tempted to climb or fly to this region from their eastern homes.

Most men believe that in the general upbuilding and economy of the earth "some steadfast purpose runs."

Have not these mountains been pushed up in accordance with a plan which involves the general good of the race? The genius of modern civilization may be maritime, but that of the most ancient periods certainly was not. The early home of the Caucasian race was in the uplands of Asia. The shepherds on the oriental mountains studied and named the stars ages before the first frail shallop was launched from the shore. The early Phœnician navigator had learned elsewhere to trust the stars before he ventured his fortunes upon the waves. The Aztec and Peruvian civilizations originated in the mountains and upland plains of the western continent. It may well be that those influences which led them to cultivate religion, art and science in the early periods still remain as a heritage to future mountain dwellers. History in certain broad senses repeats itself. It is at least certain that nature has upreared these mountains in order to diversify the conditions of mankind, to vary their industries, resources and character. The physical well-being of the race as well as its moral and intellectual nature may here again find its highest expression. It is certainly possible for such as cannot have the privilege in crowded and stifled cities to live clean and healthful lives in our mountains. Even in the most prolonged summer heats sunstroke is unknown in New Mexico. Diseases associated with malaria are excessively rare. Acute rheumatism, pleurisy and pneumonia seem only incident to special and unnecessary exposures to cold night air and subterranean damps peculiar to a miner's and cow-boy's life.

The diseases for which the mountain climate may be claimed as a prophylactic are first, those deadly diseases of infancy, summer complaint and cholera infantum. Abdominal disorders are rare. Typhoid fevers are but feebly represented by the dreaded "mountain fever," which is neither so deadly nor common as those dreaded diseases in the East. There are some neuroses, like chorea, which seem to be aggravated in this country.

I have observed among native New Mexicans that heart disease, functional or organic, does not seem in any respect more common than in the Mississippi valley, and pursue much the same course. Pure neuralgias seem positively benefited by this climate. Tuberculous, bronchial consumption and asthma are most uncommon among the native population. Invalids with lung disease seem often greatly relieved and cured by simple residence. But, where the lungs are riddled by disease and tied down by adhesions, the very rarity of air becomes a great disadvantage. Such cases are the great opprobrium of traveling patients who succumb to the inevitable "heart failure" of which so very many die before they reach a secure haven. The striking feature of the mountain country is the diathermancy of the air. Less heat is absorbed by the atmosphere than in lowlands. This obviates in great measure the oppressiveness of the air. Moreover, there is on this account an immediate and great difference between temperatures in the sunshine and in the shade. This difference has been calculated as equal to 1 degree F. for every 230 feet vertical ascent. This gives for elevations of 6,000 feet above 20 degrees F. difference. But the effect of sunshine in the absence of aqueous vapor in overcoming its direct depressing influence is something for which there is no accurate measure. Perhaps there is at the crest of the continent an electric or other earth aura which ameliorates the sunshine and causes it to quicken the pulses of life.

Statistics have proved that the West Indian islands and the Gulf States are unfavorable for most lung diseases and rheumatic fevers as well as abdominal disorders generally, being hot-beds of malaria. The same is true of the climate of India. The boasted climate of Nice and Mentone save for a short period of the year is found a signal failure. This is true of all the islands of the Mediterranean. Except the parched land of Egypt, no region has been admitted by English authorities as especially favorable for lung trouble. Egypt, however, is the home of the plague, cholera, of abdominal disease, and ophthalmia and a thousand discomforts. Great Britain in her ambition to possess the world has accomplished one

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important matter at least, though with great expense of life and treasure. She has tested many climates by means of her army. Her health and death rolls have established the extreme unhealthfulness of Gibraltar, the islands or shores of the Mediterranean, of the Black Sea, of India, China, the valley of the Nile, the West Indies and Central America and Demarara. Canada and Australia and her own foggy shores have given the best returns for salubrity as shown by England's army reports—a sad record at best. The Kerghees steppes near the Caspian, though below the sea level, owing to its dry air has been observed like the valley of the Nile favorable for tuberculous disease. In the elevated plain of Persia and Armenia, at elevations of about 6,000 feet, phthisis is much benefited.

In the Alps of St. Moritz, on the River Inn in the valley of the upper Engadine, are spas and winter cures where some happy results are experienced, despite harsh air and inclemency.

The elevated plains of Anahuac in Mexico have borne for several centuries a reputation for salubrity. The plain of Quito directly under the equator, at an elevation of nearly 9,000 feet, has a well-established claim for general healthfulness, as also have Montana, Potosi and still greater elevations. New Mexico, with its clear, dry air, affords a great contrast to many mountain regions, in particular to the Alps. These, placed between near and sharply-contrasted seas—the superheated Mediterranean, the fierce, cold Baltic and the storm-swept Atlantic—have ever been the cradle of climatic excess. The mountain tops are eternally capped with snow and glaciers; their valleys are the hot-beds of miasm and dampness, where consumption and cretinism prevail. The cold sides of the Alps are to-day, however, lined with hotels and *pensions* for invalids, who try to imagine themselves benefited by gazing on ice-clad peaks and mountain torrents. There is this to proclaim, and it is of higher importance than the story of matchless fertility, or of hills seamed through with the precious metals: In the Rocky Mountains there is an area of 1,000 by 300 miles with a climate the most serene and invigorating of all that have been tested or in any proper manner demonstrated.—*Journal Amer. Med. Ass'n.*

This is the time to select our reading matter for the winter. The physician cannot do better than to give the JOURNAL a place on his table.

Inguinal and Scrotal Cysts, Simple and Complicated, in Infants or Young Children.

BY THOMAS H. MANLEY, M. D.

In no region of the body do we so commonly encounter congenital infirmities, defects of development with pathologic derangement of function, as in the tracts which convey the testes out through the abdomial walls into the scrotum.

The most common defect is an escape of the abdominal viscera with the testes, or a reduplication of the peritoneum destined at the time, or later, to serve as an envelope for the extrusion. From this pouch the hernial contents may recede into the abdomen, its neck becoming obliterated, but the lumen of the sac remaining, and its secretion continuing, when a *cyst* of definite anatomical elements may develop. Again, the funicular process remains open for a time, or is imperfectly closed, the peritoneal fluid draining into the tunica vaginalis and distending it, when we have a hydrocele with a definite etiology.

Etiology.—Myxomatous tissue, which abounds in intrauterine life in excess of any other, remains in the genito-urinary tract, along the spermatic cord, everywhere from the epididymis to the internal ring, and may provide the source and pabulum for *spermatoceles* or *sarcoceles*, cyst-like masses intimately connected with the various tubular structures of the cord. These may appear isolated or multiple, or may be associated with hernia. In the female infant they advance along the canal of Nuck, either alone or with a hernia.

In all these adventitious or neoplastic formations discovered in the inguinal or scrotal regions, the most important question which forces itself on the medical attendant is that bearing on diagnosis. A correct understanding of their symptomatology opens the way for their rational management. A study, therefore, of their diverse anatomical elements, their clinical history and pathological changes, is indispensable, that, through error or misinterpretation of the phenomena attendant on them, an irrational therapy may not be adopted. In the infant, male or female, we find cystic bodies in varying situations from the point where the various structures converge at the internal ring to the point low down, where the funicular process spreads out to overlap the vas deferens as it leaves the head of the epididymis. They are of variable dimensions, are firm to the touch, and generally, when large and low

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down, will transmit light. They are sometimes complicated by hernia. Such a case was the following:

In the spring of 1885 an infant, male, four months old, was sent to me for the radical cure of inguinal hernia. The case presented some of the features of this infirmity, but, on critical examination, it was my belief that the swollen scrotum was caused by a cyst. I endeavored to remove it by enucleation, but its investment was so thin and fragile that this was found impossible without rupture.

After this occurred, by a tedious and delicate dissection I was able to remove the sac; but as the external ring was approached I came on a fringe of omentum, descending without a sac, within the fascia spermatica. This was clipped off after a fine cat-gut suture was applied, when the incision was closed. Union was prompt, without urinary infection, a condition so common in wounds here on diapered infants.

This was five years ago. One year ago I saw the child, now well grown for his age. He has no hernia, though no doubt he would have done equally well by the unaided powers of the economy if no operation had been undertaken.

What tends to mislead, in these infantile cysts, is that, like in the adult, they seem to recede in the recumbent posture, and the mother will almost invariable declare that when walking begins they are smaller, after rising; and what tends to deceive the practitioner is that they are, in a measurable degree, reducible. In my own experience they are usually unilateral, and most frequently appear on the right side. They are quite insensitive to the touch and seem to occasion no inconvenience. Unlike hernia or hydrocele, with time they tend to vanish rather than to augment in volume. What relation they bear to the etiology of hernia in the infant is not apparent, nor do I find this phase of the question elucidated by our most noted herniologists. Boyer was the only author that I could find who gave it any special consideration; and his conclusion was that, as those children so affected generally gave no special history of hereditary hernia, and as he was not enabled to gather from those suffering from hernia later in life that they had cystic enlargements in infancy, he was inclined to doubt the connection between the two conditions.

Operating surgeons are familiar with the fact that the cecum or appendix may be found in the sac of a strangulated hernia; but the case of a lad of nine years old, brought to me four years ago for treatment of a hernia, demonstrates that the appendix alone may also appear as a complication of scrotal cyst.

The boy, the mother said, had a rupture since he was two years old; that it came from his crying too much. A truss was applied, and from time to time worn since. When it hurts him he casts it aside; lately he had discarded it. The mother believed the fullness had increased in size since he went without it, and brought him to the hospital in order to have it cured by operation. On examination it was found that the scrotal swelling was certainly not a hernia, but a cyst. On the inner side, low down, seemingly quite near the surface, was a nodular, ovoid body, which proved to be the displaced testis. The cyst was extremely tense and readily transmitted light. It extended up the course of the cord through the inguinal canal to the internal ring. Everything was prepared for an operation, when to our amazement he suddenly rebelled against taking ether. It was apparent that it would be quite useless to attempt efficient cocainization for the radical hernial cure in such an obstreperous patient. Accordingly by coaxing and persuasion he finally submitted to aspiration of the scrotal tumor. Through the fine aspirating needle nothing would flow, but through one of a larger bore there issued a whitish, thin, colloid substance. There were about 4 oz. of this. After the tension on the scrotum and inguinal canal was relieved, there could be felt coming down the solitary appendix. When he stood up and moderately strained, the tip of the appendix would come down as far as the testis and could be readily delineated from its cecal end to the wall of the caput coli, which was engaged in the inguinal canal above. When he took the recumbent position the appendix would disappear up the inguinal canal, to again descend when he raised the trunk. Three days later he presented himself at the hospital for inspection and scrotal dressings. Since that he was lost sight of.

If we examine the older and the current literature on the pathology of spermato-scrotal cysts, we will find but little on infantile or congenital types, while many have gone at great length into the subject of cysts similarly situated in the adult. It is apparent, however, that a fundamental distinction must be made between the two, at least in their histories, and, as we will find, in their elementary composition. Let us begin by mak-

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ing an examination of the spermatic cord, its anatomical and histological elements.

This structure is, as stated, chiefly composed of a loose, myxomatous type of connective tissue. It bears a most striking resemblance to the umbilical cord, both in general outline and in its gross composition. In the infant I have had, many times, an opportunity to note, while operating for hernia, that its diameter is, proportionally for the weight of the body, vastly greater than in the adult. The cremaster muscle of the infant is not only thicker and more powerful, but the whole caliber of the cord large and wider; to the finger it gives an elastic, slippery feel. Besides the efferent sperm duct, three arteries, the nerves and lymphatic channels, the cord conveys that large leash of efferent blood-vessels, the pampiniform plexus. All of these tubular structures are tethered together by a very loose framework of myxomatous tissue, a substance extremely elastic and compressible, in order to adapt itself to the changing physiological conditions, and to modify the effects of frequent strains put on the testes.

Now, asymmetry of arrangement in the elements of the cord and diversity of consistence in the fascia crematica and its muscular investments are very common. Normally the lumen of the funicular process is completely sealed at the internal ring, though not infrequently it remains open all the way down to the testis, where we may have a distention of it by fluid from the cavum peritonei. We have good reasons to believe, too, that in some instances adhesions may close the vaginal canal at any point along its course after a large effusion has escaped from above into it, when we will have, at birth, a hydrocele into the tunica vaginalis, testis, or the spermatic sheath. These may present many of the common features of genuine cystic growths. The liquid contents of these, when they are lodged in the scrotum, are wanting in spermatozoids, which are so frequently found in adult hydrocele and cysts. It may be well to bear in mind that a urinary cyst may develop along the course of the cord in consequence of the wall of the bladder being caught up and carried downward by a descending testis on its way outward into the scrotum.

Guyon has noted with clearness the many important, independent features of these watery tumors at different epochs of life (*Sem. méd.*, 1893, XIII., p. 52). M. W. Arbuthnot Lane has called attention to the notable frequency of hydrocele and hernia in the badly nourished infants and children of those hospitals in London to which so many of the latter are sent. In his experience, with tonics and wholesome food the majority, in a short time, underwent spontaneous cure. The laxity, weakness and degeneration of structure, which favored their presence, were best overcome by remedies directed to improving the general health. But these growths or accumulations are not by any means limited to the puny and impoverished, inasmuch as they are infrequently met with in the lusty, robust infant.

If indeed there be a similar source of origin for these that there is for infantile hernia, then there can scarcely be good ground for ascribing them to marasmic conditions. It is a well-known fact, in America, that among the large number of the rural peasantry immigrating annually from Europe hernia is comparatively rare, while their children, born and bred under easier circumstances, are very commonly the subject of rupture in every form.

The histological elements of the spermatic cord bear a close analogy to those of the broad ligament in the female. In both the preponderance of tissue is of the loose, myxomatous type. Within the pelvis this provision is made in order that the numerous large helicine vessels, which course between the reflexions of the peritoneum to and from the uterus, may have free movement. Besides, by this elasticity in those frequent physiological states of vascular turgescence or compression in the female it preserves the contained tubular structures from injury.

In the male, under conditions of sexual excitement the engorged pampiniform plexus must undergo considerable dilatation and erection, as there is smooth muscle fibre in the walls of the vessels. This mucoid reticulated tissue which everywhere clothes these vessels permits these sudden vascular changes without detriment. Cystic disease of the internal genitals in the female is very common after puberty, rarely before it, while with the male it is most frequent in infancy and early childhood, and, again, often seen in this sex after the meridian of life, when senile changes begin. In both the most common origin of true cystic disease is in the myxomatous or indifferent tissue elements; and in many their contents partake of the consistence of the parent matrix, being of a colloid or mucous consistence, thereby stamping with reasonable certainty their true, neoplastic origin.

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These growths along the spermatic cord in early life have very thin though resistent walls. They may appear singly or multiple, but when they do they are in separate inclosures, seldom being loculated, as they so commonly are, later in life. They are usually lined by flat epithelia, though in one specimen which I examined, removed from a boy of two years, the inner tunic was entirely invested by the columnar variety, with a thick epidermal stratum spread over the surface. The adenoid layer was more than twice the thickness of the fibrous investment. In another of larger size, removed from a girl of twelve, high up in the canal of Nuck, which had a thick shell and contained an opalescent fluid, the interior was paved by endothelia only.

The contents of these cysts are sometimes mucoid—the "mucoceles" of the older authors—although in those infants more than three months old their contained liquid is commonly serous or watery. Whether there be a liquefaction within the cyst, the mucus undergoing aqueous changes, in older children, is uncertain. It is probable, however, that in those springing from the endothelia of the processus vaginalis serum will be found, and those springing from the myxomatous elements mucus. Cysts of this class are seldom complicated, except with hernia. The central transformation or degeneration, so common in the adult, is not encountered. With rare exceptions these infantile cysts disappear by resorption. Their vascular supply becomes gradually less, their epithelial investment degenerates and liquefies, and after a varying period they have vanished.

There is good ground for disregarding cystic disease as an active etiological factor in early hernia, but that it is very commonly associated with it cannot be denied.

In nearly all the cases of hernia in the very young coming under my care, giving a history of the infirmity from birth, various types of cystic disease were present. In some, pyriform masses were met; in others there were patches of myxoserous material, oblong or irregular in ouline. They were lodged generally between the sac and elements of the cord, and during the process of enucleation of the sac were often ruptured. In one case of a female infant, when the canal of Nuck was opened, the ovary and fimbriated extremity of the fallopian tube, with a mucoid cyst larger than both, came into view. This, however, added no fresh difficulties to the operation, and the infant made an excellent recovery. The next child the mother had was born with a cystic tumor over the crest of the right ilium. There was reason to suspect hereditary syphilis in these infants, though it was denied by the parents.

The limits of this contribution do not permit of an extended notice of symptomatology. The important subject of diagnosis will be dealt with in detail elsewhere.

Treatment.—If we were always enabled to determine with accuracy the presence of uncomplicated cystic disease of the cord or round ligament, the question of treatment would be a simple one, for unless such symptoms only are present as indicated by pain on pressure there will be little to do. But this we cannot do; moreover, the anxious parent, solicitous for the infant's future, views with serious apprehension this blemish, and is not quite contented, notwithstanding what assurances may be given, until the bulging mass has disappeared.

Mr. Lane was no doubt correct when he recommended, as a primary therapeutic measure, attention to the hygiene of the child, or constitutional treatment in weaklings. It is my own belief that not a few of these are the outcome of degenerate syphilis, are true gummata assimilating in some particulars with the tissues among which they grow. Acting on this assumption, I have prescribed small doses of iodide of potash, while a weak ointment of the red oxide of mercury was rubbed in on the surface once a day. Many have yielded promptly to this plan; but whether the result was attributable to the methodical friction or the internal medication was uncertain.

Before we apply any description of local treatment it is necessary that a careful examination be made for complications, or other pathological conditions within the abdomen or external to it. Of the former, let us be quite sure that in a strumous patient intumescence or hypertrophy of the peritoneal lymphatics do not exert undue pressure on the spermatic vein and thus favor transudation through the glandular or serous structures which it drains.

Let us be certain that the testis is well down in the scrotum; as in the presence of ectopia of this organ or its lodgment along the inguinal canal massage or friction may rather aggravate than liberate the adhesions which hold it back. The complication of hernia constitutes no bar to the local treatment of the cysts in infants or young

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children, but in order to derive the greatest benefit it is well to look to it that any local condition favoring hernia be removed. Therefore any impediment to urination should be removed, as a stenosed meatus or contracted prepuce, a calculus in the bladder, etc.

Constitutional medication and improved hygiene are no less important than local measures. Mercury, the acids, alkalies, iron, reconstructive remedies, proper dieting, clothing and exercise are important adjuvants.

Methodical pressure is of doubtful value in mucoceles of the cord; though, in serous locules with possible communications with the unclosed processus vaginalis, it provides a rational basis of treatment; first, by expressing all the fluid out, and second by provoking an adhesion of the serous surfaces and obliteration.

Puncture as a rule should not be resorted to in any except those cysts which are of considerable volume, well isolated, are clear by the medium of transmitted light, and are occupied by limpid watery fluid.

The danger of confounding these hygromata with hernia and piercing the intestine is obvious; moreover, if their contents are colloid they will not flow through the bore of a fine needle.

Simple incision with evacuation is our next expedient. In my early practice decortication had my preference, because it impressed me as the most surgical and radical resource, but later experience has convinced me that in uncomplicated cases the incision alone, with or without drainage, answers equally as well. In these cases we usually have an exceedingly delicate membrane to deal with, which commonly is incorporated with the elements of the cord, requiring a tedious dissection, and oftentimes a considerable parenchymatous oozing of blood, the loss of which is always badly borne by an infant or young child.

My own plan has been to open carefully into the interior of the cyst, drain off its contents, and then rub its inner surfaces well together, after a thorough irrigation of the lumen with sublimate solution. After this a few deep sutures were introduced and the parts allowed to close by primary union.

With the mucoid variety, after squeezing out the contained material, the loculi were freely curetted for the purpose of clearing away their epithelial lining and reaching a vascular surface. Then the incision was closed as with the preceding variety. It goes without saying that these operations must be scrupulously clean, which term practically covers all that so-called sterilization or asepsis implies.

Intumescence, with marked local reaction, follows this line of attack, but there is no severe constitutional reaction; and in healthy subjects, whatever residue of sanguinous or inflammatory deposits may remain behind are quickly resorbed, when a permanent cure results.

Constitutional measures alone, or conjoined with local, having failed, we resort to surgery, and only then. When the scrotocele persists and no impression is made by temporizing treatment, then there are good reasons for suspecting the presence of an irreducible hernia, in which event an operation, simple and safe of performance, accomplishes the dual purpose of radically curing it and obliterating the cyst.—*Amer. Medical and Surgical Bulletin.*

New Treatment for Phthisis.—Mitchell's Fluid.

In a paper read by Dr. Hubbard Winslow Mitchell, of New York, in the section on State Medicine, of the American Medical Association, held in Atlanta, Ga., 1896, he remarks, that under the treatment he began some two years or more ago, no deaths have occurred up to this time. His paper deals with pulmonary phthisis, induced by the bacilli reaching the lungs through the bronchi—termed by some writers "inhalation tuberculosis," the ulcerative tuberculosis.

About three years ago he began experimentation with a group of chemic salts (halogens). These salts, when combined in definite proportions, form a fluid having remarkable antiseptic powers. Subsequently, he added hypochlorites of sodium and potassium—the resultant fluid was a chemic combination. He first used the "fluid" in cases of ulcerative and suppurative processes, occurring upon the surface of the body, and obtained satisfactory results in ulcers of a syphilitic, traumatic and varicose nature (375 cases in all). In many syphilitic and chancroidal lesions, the sores healed in a very short time.

Impressed with the value of the external use of the "fluid," he tried it internally in phthisis. He gave it when the stomach was perfectly empty, so that, when absorbed, it was carried by the blood into the lungs, with flattering success. To illustrate:

Man, age 21; had cavity in right lung, with weekly severe hemorrhages. In fact, he raised

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blood at each coughing. Pus cells and characteristic bacilli in sputum; night sweats, anorexia, loss of flesh and beginning phthisis cachexia. He was given "the fluid" in two drachm doses, full strength, always on empty stomach—half hour before each meal and at bedtime. No other remedy was employed. Diet, rich and nutritious. Treatment began June 1st, 1894. In three days, night sweats ceased; he stopped spitting blood, and cough lessened. Treatment steadily continued until July 31st. His sputum contained few bacilli and few pus cells; general symptoms much improved. On October 1st, auscultation showed lung had healed, and sputum was free from bacilli and pus cells. Completely cured.

He immediately selected eight women having typical symptoms of phthisis pulmonalis. Treatment same as in first case; in periods varying from four to seven months. All recovered.

He now has in private practice 130 cases with all the characteristic symptoms. Forty are practically well—the sputum being entirely free from bacilli and pus cells. Thirty are hopeless—the lung tissue destroyed being too extensive to be restored, yet all the symptoms are considerably modified. The treatment checks the diarrhœa, night sweats cease, and soon respiration becomes more normal, and a degree of comfort given which was not hoped for. The remaining 60 cases—all severe—he has reason to believe most of them will ultimately recover.

TREATMENT IN DETAIL.—He gives the "fluid" in 2 and 3 dram doses, clear, four times daily, always upon an empty stomach. This is absolutely a *sine qua non*. He uses a glass to measure the fluid, not a metal spoon. In all cases whisky is given, 1 to 2 ounces at a dose, two or three times per day. Cough is somewhat lessened by adding essence of peppermint to the whisky, half a dram to each dose. The diet must be nutritious and liberal.

In every case of phthisis examine the sputum once in ten days or two weeks. Dr. John Hoch's method of examining the sputum is as follows:

Stain fresh sputum with carbolic fuchsin and methylene blue; the former stains bacilli a bright red, while pus cells and other ingredients of the sputum are stained blue by the methylene. Sputum thus stained is mounted on glass slides. He uses a one-twelfth inch objective oil immersion lens, which gives a diameter of 925 times. This high power makes it possible to count every bacillus in each specimen of sputum, so that errors are absolutely eliminated. As treatment progresses these microscopic examinations are made at short intervals, and the diminution in the number of bacilli are accurately observed.

When a case of phthisis presents itself, make a complete examination, keep a permament record of each case with the history of all symptoms noted, etc. This, he believes, is the first attempt made in this country to treat the disease in this scientific and methodic manner, and the results obtained have shown that it is of the highest possible value.

He enjoins every patient to keep quiet, remain in bed and in-doors when necessary; he relies upon rest as an important adjunct of the treatment.

In severe cases, where cough is incessant and distressing and the fever high, he often gives a pill at night, containing 3 grains of sulphate of quinine and ½ grain of powdered opium, omitting it as soon as possible for fear of disturbing the stomach.

The composition of the "fluid" is as follows:

Sodic hypochlorite.....	7	grams
Potassic hypochlorite.....	7	"
Magnesia chlorid...	1.5	"
Calcic chlorid.....	2	"
Hydric chlorid.....	2	"
Chlorin.....	5	"
Potassic sulphate.....	1.5	"
Magnesic sulphate	.5	"
Aquæ	1,000	"

Sodic carbonate, potassic carbonate, equal parts added in sufficient quantity to bring the solution to the proper degree of acidity.—*Virginia Medical Semi-Monthly.*

The Drink Question in America.

A committee of the "Sociological Group" has been formed in this country for the purpose of investigating the "liquor problem" in its psychological, ethical and legislative aspects. The committee includes such representative divines as Cardinal Gibbons, Archbishop Ireland, Rabbi Gottheil, Bishop E. G. Andrews, besides physicians and men of science like Dr. J. S. Billings, Professor Bowditch, of Harvard; Professors Furnham and Chittenden, of Yale; Dr. Weir-Mitchell, and public men like President Eliot, President D. C. Gilman, Mr. Cornelius Vanderbilt and others. Physiological experiments on a large scale are proposed, and the investigation is to be made as complete as possible.—*Medical Review.*

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Original Articles.

Cancer and Its Many Theories.

By Z. H. Evans, M. D., Traverse City, Michigan.

There are but few, if any, subjects to be found anywhere in medical literature which have engaged the attention of the medical philosopher more than cancer. This is not at all strange when we consider the variety of its symptoms and the endless diversity which they assume. This alone could not fail to arouse curiosity and excite interest in every mind in the least alive to the preservation of a fellow creature entrusted to his care. Ingenious hypotheses and fine-spun theories that have appeared to explain the cause and nature of cancer are not only the offspring of later times, but the present as well. Yet with all it may be fairly questioned whether these many theories have tended more to advance or retard our knowledge of this mysterious disease. They have in all countries and in all ages both amused and misled the minds of those who seldom think for themselves, and they often have bewildered the judgment and repressed the industry of original inquirers. Although we have bestowed some portion of our time on these fleeting meteors of the day as they passed in rapid succession before us, yet as principles to guide us in the hour of difficulty and danger at the bedside of our cancerous patients, what practitioner of experience has not found them all deplorably defective? The failure of success which has hitherto attended inquiries into the nature and cause of cancer must in justice be ascribed in part, at least, to the obscurity in which the subject itself is involved; but much also is owing to the pernicious disposition of too extensive generalizing and to explain different phenomena on a single and imperfectly established principle. I fear not to assert my belief that all of the many forms of cancer agree in being diseases of the whole system, and in their progress affecting every function of the body, yet each particular species has its characteristic peculiarities, and, however modified by circumstances, retains to the last its true malignant type. Should I at any time be asked by any who differ with me on this subject why I dare oppose the weight of the highest surgical authority on this subject, I would answer that my opinion is based on the traditional prophecies and surgical events of the past, which go to prove that cancer has come to us from across the centuries by inheritance. The results obtained in the treatment of cancer also prove that its cause is still buried beneath the dust of antiquity, and therefore must be sought in the long, lingering curse of the forgotten, barbaric past. While advocating, as I shall in this brief paper, the doctrine of the constitutional origin of cancer, I am fully aware that I am not basking in popular favor.

The theories that have appeared from time to time from a class of would-be epoch makers (who labor in the laboratory, but never see disease at the bedside) oftentimes appear quite rich in original research, until finally some day clinical experience proves them false, and then their authors' conceit is exposed, which makes them appear as the most colossal specimens of perverted psychological architecture in existence. Language as strong as this may appear to some as needing to be qualified. This, however, I refuse to do, but now will proceed to call some of these theories to account and trace them down to their logical conclusions. The doctrine of the traumatic origin of cancer, together with the parasitic theory of the same disease, must necessarily crumble. Everything eventually crumbles which is not founded on facts. No theory of any given disease can satisfy when it proves false

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to practice. Therefore in the light of our present knowledge of cancer it becomes the duty of all physicians—a duty made clear by the gift of reason—to doubt all of these cancerous theories until they have established a reputation of throwing some light at least on the precise nature and cause of this disease. Doubt and fearless examination are the only weapons at our command which will aid us in arriving at the truth. Unfortunately for the science of medicine as well as for humanity, we have to-day among us a large class of physicians who believe in and follow the teachings of these theories, with the only result of always being found confused, mistaking chaff for wheat, judging not the cause of cancer by its historical career, but by the parasites found clinging thereto. Tillinau tells us with an air of authority that the use of tobacco and brandy is the cause of cancer of the lower lip. Thresch states with equal gusto that the weekly use of the dull razor in shaving the face and lower lip is the cause in producing epithelial cancer involving the same location, while our works on surgery, I am sorry to say, teach that smoking the clay pipe is the cause in producing the same form of cancer involving the tissues on the lip. Of course it can't be held incumbent upon me, as I am nothing but a plain country doctor (and one who was born in obscurity and reared in poverty) to be wise up to that which has already been written; therefore I trust that the authors of these theories will pardon me if I ask of them if the use of the above-named articles is the only known factor in producing cancer of the lower lip, then, if so, what cause is this that produces the same form of cancer found in the rectum?

We have now arrived at a point in the discussion of this subject wherein it not only becomes extremely interesting, but the importance of the subject demands that we should know if these victims of cancer of the rectum have produced the disease in themselves by converting their lower bowel into a tobacco and brandy warehouse, or have they fallen into the habit of shaving their anuses weekly with a dull razor and thus produced the disease, or is the presence of the disease to be explained upon the theory that they have been guilty of smoking a clay pipe through their lower *vent?* Who is it that will now come forward and explain?—not, I hope, on the theory of the difference existing in tissues, for there is none; the same character of tissue that enters into the formation of the lower lip is equally found in the anatomical make-up of the rectum.

There still exist one or more theories which have appeared within the writer's own time, and I would gladly pass them by as being unworthy of the slightest consideration were it not true that they occupy chapters in our works on surgery. Not only this, but they are being taught in every medical college in this and other countries. I now refer to the Cohnheim theory. Cohnheim teaches that there is but one way in which it is conceivable for a new growth to arise in the adult, and that is by a portion of embryonic tissue having become arrested in its development during fœtal life and having remained shut off until its dormant capacities have ultimately aroused into activity. Is it unfair to ask Cohnheim or any member of his school of followers if they can point out in any intelligible language what that power is that remains so long dormant but at a given signal becomes aroused and forces these so-called embryonic tissues into rebellion, when they become active participants in the performance of a function that is so foreign to the Royality of Nature? If they can do so, I hope that they will not long withhold from us information at once so curious and desirable. For the attainment of it I would be most happy to enroll myself as one of their pupils and learn to interpret this mysterious handwriting on the wall. As embryonic tissue does not exist in bone, how can Cohnheim account or apply his theory to the presence of cancer so often encountered in the osseous structure? This fact allows me to say that any physician or surgeon is to be pitied for his ignorance who stands by and is satisfied to see his cancerous patients die according to the Cohnheim theory. There exists not the slightest doubt in my mind that local irritation may and often does excite the growth of neoplasms in certain individuals or stock, but before it can do this there must be present that unknown chain of morbid material the nature and location of which, I regret to say, remains still the secret of the epoch in which it was created.

There is still to be dealt with another would-be

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profound thinker, who has asked us to believe that shock, grief and mental worry are prime factors in producing cancer in general. Snow, in his work on "Reappearance of Cancer after Operations," cites cases to prove this theory true. I will now, with his gracious permission, proceed to reproduce a few of his cited cases, and ask those who for the last quarter of the present century have stood in the clinical arena and faced the old problem of cancer, if mental shock, grief and worry can generate cancer in the absence of that unknown morbid material, and if so, out of what? *Case* 1. Malignant disease of the ovary. Age of patient 75. Heredity *nil.* Wife of a retired physician in easy circumstances, with no children, leading a very retired life. No injury. Greatly worried by visit from relations for whom domestic arrangements had to be altered. Sleep at this time much broken. Within a few weeks appearance of growth. Rapid progress and speedy death. *Case* 2. Malignant disease of cervix (epithelioma.) Age 42. Heredity *nil.* Widow robust in appearance. Keeping apartments. Lost husband one and one-half years ago. Lately son had misconducted himself and had greatly disturbed her. Disease had been noticed three months. *Case* 3. Scirrhus of breast. Thirty-three years of age. Mother died of same complaint. This lady was in good position. Had slight blow on breast from husband's elbow four months before appearance of tumor. Lost a brother fifteen months previously. Two months ago some domestic worries about servants. Did much work herself and *thinks she strained her arm.*

I will now stop at this very juncture and inquire if a visit from friends and the misconduct of a son and worries over domestic affairs are sufficient in and of themselves to generate cancer? If so, what can be said regarding the grief, mental shock and worries produced by Nero and Rome under the Cæsars, as well as the Spanish Inquisition, the struggle with Spain in the Netherlands, and the French Revolution, to say nothing of our own wars and present grief and mental shock produced by one who has sold his sacred trust for personal gain to the European Jew? If the worry, grief and mental shock theory of cancer be true, then how does it come that the human family have so long escaped from being converted into one solid cancer mass, with blood and pus everywhere dripping from their open sores?

Away with all such theories! They are only valuable in so far as they go to support what I have already stated, namely: We have a class of physicians among us to-day who never exercise the gift of reason—they never think. At the present writing our knowledge of cancer is such that writers upon the subject can do nothing more than offer material for thought. This material offered, however, should be the direct result of clinical facts. There is nothing anywhere to be found in the history of surgery which has been more useful than its earnest appeal for clinical experience. If we in the future are to advance from our present knowledge of cancer we must at once refuse longer to play this international game of leap-frog over the doctrine of its constitutional origin, for in the opinion of many it is along on these lines of thought where our next great advance is to be made in medical science.

In his address before the Abernethian Society Sir James Paget drew attention to the great gap which exists in our knowledge of the laws of heredity. Some of the broader facts of heredity are familiar enough, and are indeed too palpable to be overlooked even by *careless observers.* That gout, cancer, rheumatism, tuberculosis and insanity, to take a few examples out of many, are often inherited is a well recognized and certain fact; but, says Sir James Paget, it has never been studied carefully. What may be the result? When one parent has one transmissible disease and the other has another, what comes if one parent is a member of a cancerous family and the other a member of a tuberculous family? Do these two diseases in any respect disturb one another? Are they mutually exclusive, or do they mingle together? We know that acute tuberculosis and cancer never make rapid progress together; they seem, in so far as that, to be antagonistic. But what comes of it when they are mingled together by inheritancy? Of that I think we certainly know nothing. This is only a specimen of numerous questions which might be put in connection with the subject of heredity but are at present without any certain answer.

Is heredity more usually through the male or

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female parent? Will he or she be likely to develop the disease occurring in the corresponding stock? Why does disease sometimes skip a generation only to reappear with increasing violence? Why does the epilepsy of the parent become insanity in the child, or *vice versa?* How comes it that the female transmits the tendency to hæmophilia, but is herself exempt, while the male who suffers does not usually propagate the disease? We might multiply these questions a hundredfold, but they are sufficient to show how much darkness still envelops so patent and all-important a fact as the inheritance of disease. Some of the laws of heredity are approximately known, although often their *rationale*, etc., is inexplicable; as, for example, the law that diseases often skip a whole generation and reappear in the generation that follows. This fact has long been observed. It seems to involve the assumption that an individual apparently quite healthy may contain in his organism the seeds of disease—*e. g.*, tuberculosis or cancer—and transmit the tendency to such disease to his offsprings, although he has never presented any symptoms of it himself. This may be so; but if such a theory be correct, it then intensifies our conception of the mystery of the pathological processes. If it could be shown in such cases that the "latent" seeds of disease (we are compelled to use figurative language in this connection for want of better) remain dormant until certain favoring conditions combine to bring them to maturity, the mystery would materially lessen, but in many cases we have no evidence that such is really the case. It may, however, be regarded as often a probable hypothesis.

I will now proceed to call attention to a few already recorded cases which will, in my opinion, go a long way towards proving the hypothesis true. Fagge, in his work on the practice of medicine, vol. 1, page 121, records the following: Thus a lady who died with cancer of the stomach had had seven children and about thirty grandchildren who grew up. Some of them were still living, but a daughter had already died with cancer of the stomach, a granddaughter with cancer of the uterus, a granddaughter with cancer of the breast, a grandson with cancer of the rectum, a grandson with cancer of the axilary lymph glands. Again, same volume and page: Thus a young lady of twenty-four died of epithelial cancer of the pharynx. Her mother had been attacked by cancer when between forty and fifty years old, her grandmother between sixty and seventy, a great-aunt at about forty, her great-grandmother at eighty or older. Dr. Warren, in his work on tumors, records the following: A man died of cancer of the lip. His son had a similar disease of the breast, from which, after having undergone an operation at the age of sixty, he finally lost his life. Two of his sisters had carcinoma of the mammary gland; they were operated upon, but ultimately died from a relapse of the malady. A daughter of one of the ladies had a carcinoma of the breast, which was removed at an early period. She recovered, but perished some years after from the same disease of the uterus. A daughter of the gentleman had a carcinoma of the breast, and there was reason to believe that other members of the family were afflicted by the same malady. Dr. J. M. Warren has communicated the particulars of a case to the late Prof. Samuel D. Gross showing how remarkable this hereditary tendency is to carcinoma. In this instance a man who died of carcinoma of the penis had lost his father, grandfather and great-grandfather from similar disease. My own practice, says Gross, has afforded me a number of instances of this kind, and all writers on carcinoma narrate examples of it. In one remarkable case, says Gross, four out of six members of one family had died of this disease: one from carcinoma of the uterus, another from carcinoma of the mammary gland, a third from a malignant polyp of the nose, and the fourth from carcinoma of the thoracic viscera. The late Prof. Gibson cites an instance of carcinoma of the breast in four sisters. Some seven years ago the writer was asked to assume charge of Miss G., age fifteen, whom I found on examination to be suffering from a large growth in the lower abdomen, which I took to be an ovarian tumor. I at once advised an operation, and on cutting down upon the tissues I found it to be a large carcinoma of the left ovary. The external wound was at once closed, patient placed in bed, where she died a few days later. After making known to the family the nature of the growth, I was then

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for the first time made acquainted with the family history. The mother of the patient stated to me that the patient's grandmother was then suffering from a cancer of the breast, her great-grandmother had died from cancer of the breast, while two aunts had died, one from cancer of the face, the other from cancer of the uterus. Of 223 cases of cancer analyzed by Sir James Paget the disease occurred in other members of the family in 78, or nearly one-fourth. In 305 cases collected from the records of the Middlesex Hospital, London, by Dr. S. W. Sibley, the disease was traced to the relatives of the patients in 8¾ per cent. of the entire number of patients. Dr. W. W. Russell, of Johns Hopkins Hospital, records the result of 47 cases of complete extirpation of the uterus for cancer, and states that at the end of five years there was but one patient alive. (N. Y. Medical Record, Dec. 7th, 1895.) Prof. August Martin, of Berlin, has given us the final results of 214 vaginal hysterectomies for cancer, and at the end of four years only five patients were living. Moreover, he states his belief that one hundred women with cancer of the uterus will live a greater *aggregate* of years if left alone than subjected to hysterectomy. (Archives of Gynæcology, July, 1893, No. 7, page 248.) R. Krukenberg, assistant physician in the Royal University clinic for women at Berlin, under the direction of Prof. Olshausen, has given us the result of 200 vaginal hysterectomies for cancer of the uterus, and claims to have cured 25 per cent. of these cases. John Williams, London, puts the average of permanent cures at 28 per cent. Schauta, of Prague, estimates 47⅓ per cent. of cures of all cases operated upon, and counted after three years. Pozzi, Paris, in 1890, puts the average of permanent cures from 40 to 50 per cent. Dr. Cordier, of Kansas City, now comes forward with a plea for early surgical treatment of cancer of the uterus, and makes use of Prof. Martin's cases, 66 in number, to appear as though the final result were seventy per cent. of permanent cures. I am a little curious to know upon what basis these operators can reconcile the wide variance that now exists between them as to the so-called cures. Cunning manipulation of statistics for personal gain is not the weapon to be employed in the treatment of cancer, and I for one will be glad when it can be said that we have outlived the time when bigotry and falsehood are resorted to in calculating statistics. These glib-tongued operators speak of shelling out the uterus as though it were a mere afterbirth, and cancer in their hands were inferior to a wart, which all surgeons know to be untrue. It affords me much pleasure at this time to be able to quote the language of one upon this subject whose ability as an observer and whose literary honesty and surgical skill are not by any to be called in question. I now refer to Dr. James M. Baldy, of Philadelphia, who has said that as to the "cure of cancer cases I can only express doubt. The majority of cases after the removal of the uterus die within three years of a return of the disease. A small minority remain well after this time. It is *notorious* how difficult it is to diagnose the disease in the uterus with the microscope, and it is in fact, becoming the habit, to operate on all suspicious cases. My own opinion is that many of the supposed cures are not cancer at all, but *suspicious cases*. I do not mean to insinuate that suspicious cases should not be operated upon, but only draw attention to the *fact that we could not expect such good results as statistics would indicate. I am more and more inclined to believe that the disease is a general and not a local one.*" (Annals of Gynæcology, Vol. 8, No. 11, page 666.) It is much to be regretted that Dr. Baldy's abilities are such as to disqualify him from being able to diagnose cancer of the uterus with the microscope in advance of any of its physical manifestations. In conversation a few months since (with what Dr. Joseph Price aptly terms a graduated gynæcologist) on the subject of cancer of the uterus and its treatment, he informed me at once of his ability to diagnose cancer of the uterus with the aid of the microscope unaided by any of its local signs. In order to convince me that he had accomplished this most difficult task, he cited one case where he had removed the uterus, and assured me that he had freed his patient from any future return, as he had operated early. Then I protested against such rash surgery, and gave it as my opinion that if the disease did not return within three or four years it would to my mind be conclusive evidence that his patient in the first place never had cancer. At this period in our

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conversation this young gynæcologist became so disgusted with my ignorance that he abruptly left and took a seat on the opposite side of the room. I am in some doubt as to my learning and ability to call the teachings of this young Grand Rapids gynæcologist in question, for it must not be forgotten that this young man is not only a skilled gynæcologist at home, but an expert on insanity when away from home. However this may be, I will take this occasion to state that any surgeon—and it matters not to me whether he be a German sage or a young Grand Rapids gynæcologist—who gets up in the morning before daylight and removes a uterus, in anticipation that it would become cancerous before noon, makes mistakes, and by so doing defames the good name of surgery. What would be said of the general surgeon who would so far forget his calling as to advocate the removal of the testicles in anticipation that they would become cancerous in the future? Where is the oculist to be found who advocates the making of a iridectomy in a healthy eye in order to prevent a glaucoma in the future? I know of no class of physicians whose pretentions are so lofty as those who pretend to *cure* from 25 to 70 per cent. of all uterine cancers operated on.

What has the surgeon to offer his cancerous patients in return for the money received? I say absolutely nothing so far as a permanent cure is concerned. All he can promise is that the patient may hope for about two years, on the average, of complete relief, and any surgeon who promises more is guilty of juggling with the truth. If a surgeon tells his cancerous patients plainly what surgery has to offer for their relief, he then may practice his art for forty or more years and at the end be able to count all of his operations for cancer on the fingers of his right hand. The ideal for a perfect physical nature is perfect health. The ideal for a perfect mental nature is a normal brain. Therefore, in order to bring back the gift of nature, we must ask the general government to pass such laws as will prevent these perverted psychological laboratories of wedlock from going into commission and becoming active participants in the mixing process of impure compounds that enter into the growth and construction of man. If such laws cannot be secured, then we must be content to wait the fatiguing process of time for Nature to produce a pathfinder who will descend into the cesspool of our inheritance and there unravel the mystery of cancer. Whichever course is adopted, we shall be obliged to wait, and in the meantime we must not abandon victims of cancer to their own fate. We must adopt that method of treatment which experience has proven will secure to the victims the greatest number of days with the least amount of suffering. Thus while waiting let us all watch for the early dawn that is to mark the epoch of the new time.

Purulent Ophthalmia of the New-Born: Its Relation to Blindness and Its Prophylaxis.

BY GILBERT E. SEAMAN, M. D., OF MILWAUKEE.

The subject which I desire to bring before you is one which has commanded a great deal of attention in recent years, and there would seem to be litte justification for taking it up at this time were it not supplementary to other papers on allied subjects which will be presented for your consideration.

Without doubt purulent ophthalmia is one of the most disastrous of all diseases affecting the eyes of new-born children and the most fruitful source of blindness. Various authors have placed the number of cases from this cause at from 10 to 60 per cent. And Magnus, of Breslau, has found that fully 72 per cent. of blindness occurring during the first year of life is due to this cause. Fully one-third of all the inmates of our blind asylums have been victims of this disease.

The number of blind in the United States per 1,000,000 inhabitants in 1860 was 403; 1870, 527; 1880, 976; 1890, 805, showing a steady increase from 1860 to 1880, which was no doubt due to the operation of several causes; for instance, the rebellion and the increase of immigration to our country of those nationalities most apt to have ophthalmia. There was an apparent decrease during the period from 1880 to 1890, which I think was due to the more general recognition of the efficiency of proper preventive measures against purulent ophthalmia. It has been claimed by some writers, however, that this decrease was only apparent and not real. The total number of blind in the United States census of 1890 was

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50,411, and according to the most reliable figures, I think it is not too much to say that 30 per cent. owed their blindness to ophthalmia neonatorum. In our own State of Wisconsin we have, according to the census of 1890, 723 persons blind in both eyes, and 1,155 in one eye only. As a matter of course the same causes which operate elsewhere are in force here.

In a series of over 3,000 cases of blindness collected by Fuchs, purulent ophthalmia in the newborn was found to be the cause in 25.5 per cent. According to the report of the Royal Commission on the blind, appointed by the English government (published 1889), 30 per cent. of all the inmates of the institutions for the blind lost their sight through this cause. Magnus of Breslau, says that 34 per cent., Katz of Berlin, 41 per cent., and Claisse of Paris, 46 per cent. of all cases of blindness are caused by this disease. Honner has collected the statistics of 100 blind asylums and reports that the disease as a cause of blindness varied from 20 to 79 per cent., averaging 33 per cent.

Of 167 inmates of the Philadelphia Institute, 55 or about 33 per cent., owed their blindness to purulent ophthalmia.

Reports from other observers and from most other countries agree in the main with the figures above quoted. These figures by no means express the full number of sightless people, but they are startling enough to make us pause and consider whether we are doing all that can be done in the matter of the prevention of blindness.

Ophthalmia neonatorum being an infectious disease due to a pus-forming microbe, either the gonococcus of Neisser, or some other germ, it follows that it is to a large extent preventable.

The infection can almost always be traced to the vaginal discharge of the mother or some other equally apparent source.

In the great majority of cases infection takes place from the vagina of the mother, and it should be borne in mind that lochial discharge other than of a gonorrhœal nature may give rise to the disease.

I will not go so far as to say that the disease may be prevented in every instance. Nor do I claim that preventive measures must be used in every case of labor. But there is no doubt that blindness from this disease may be reduced to a minimum by the observance of a few simple rules of practice.

Previous to 1880 nearly 10 per cent. of all children born at the Leipsig Lying-in Hospital had purulent ophthalmia. Since the introduction of Crede's method the routine use of a 2 per cent. solution of silver nitrate in the eyes of all children born there, as soon as possible after birth, the number of cases has dropped to 0.5 per cent. Dr. Lucien Howe, of Buffalo, has collected two series of cases, the first showing the results obtained by different obstetricians who disregarded the eyes at time of birth, and did not use any preventive measures. Of 8,798 children, 8.66 per cent. had ophthalmia. In the second list of 8,574, where the Crede method was followed, 0.65 per cent. had ophthalmia.

Fuchs has collected from different sources statistics of 1,092 children, in which, without treatment, ophthalmia developed in 19.26 per cent. And 1,250 children in which preventive treatment of one kind or another was used, in which ophthalmia developed in 5.44 per cent.

I am by no means an advocate of Crede's method to the exclusion of all others., Good results have been reported from several large asylums and lying-in hospitals from the use of various antiseptic solutions, notably bichlorid of mercury, 1 to 5,000; permanganate of potash, 1 to 1,000, and chlorine water, or as Tarnier advocates, the dusting of the conjunctival sac with iodoform. Still others rely with a great deal of confidence on the use of simple sterilized water. But after summing the whole matter up, I believe that more absolute reliance can be placed on the nitrate of silver than any other remedy. I am sure I would be unwilling to trust a case where there was any suspicion of infection without the use of this remedy.

The particular method of prevention to be followed is perhaps not of so great importance as the fact that some satisfactory method should be employed and that thoroughly, and also that as nearly as possible absolute cleanliness should be maintained during the progress of labor.

In the matter of prophylaxis it is important in many cases that the vaginal canal and external parts of the mother should be washed before la-

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bor with green soap and hot water, and if there is any reason to suspect infection, a suitable antiseptic solution, preferably bichlorid, 1 to 2,000. There seems to be some objection to this in certain quarters, but I must say it is inconceivable to me how harm can be done by cleansing the vaginal passage of a parturient woman. Great care should be taken with the first bath of the child; the eye-lids and face carefully wiped off before the bath with clean cotton, and the maternal secretions not rubbed in with a filthy rag, as I have seen done on more than one occasion. Indeed, I think in a great majority of cases of labor, it would be well for the physician himself to attend to the first bath of the child.

In the consideration of the question of prophylaxis, one of the most important points is the enactment of necessary legislation, to the end that these cases should be immediately reported to the proper authorities. Such legislation has been enacted in several countries of Europe and a number of the States, and has already begun to bear fruit in the diminishment of the sum total of blindness. This legislation is especially important in Wisconsin, where such a large proportion of labor cases are attended by midwives.

It has been pointed out by a number of writers that better education of those persons who are to care for women during the puerperium, and the dissemination among the common people of knowledge as to the nature and danger of inflammation of the eyes of infants, would perhaps be as effective as legislation. This might be done through local boards of health, the health officers of cities and the State Board of Health, by issuing cards of instruction, pamphlets, etc., such as have been printed and issued concerning other infectious diseases.

Atheroma with Thrombosis of the Popliteal Artery.

BY IVINS COMFORT, M. D., NATIONAL HOME D. V. S., WAUWATOSA, WIS.

Anson D. Durgin, late Co. "B," 22d Regiment Massachusetts Volunteers, was admitted to Hospital February 12th, 1894. Occupation, a lawyer; social condition, a bachelor; age, 59 years.

DIAGNOSIS—Atheroma, with thrombosis of the popliteal artery. Amputation. Recovery. On admission the pulse, respiration and temperature of the patient were practically normal, so also was the urine. The left foot of the patient was the seat of a most excruciating neuralgia, from the suffering of which there was no relief night or day. On February 26th the fifth toe is now necrobiotic. March 12th, gangrene is well marked in the anterior part of the foot, including all of the toes; the "line of demarcation" is located at the instep. Little pain is experienced in the foot or limb. The gangrenous parts are dressed with Labarraque's solution diluted with ten parts of water. The limb must now be amputated in order to save the life of the patient.

March 18th. In order to save the life of the patient an amputation was performed by the writer of these lines, at the lower third of the left thigh, hoping to include the thrombus, with its diseased artery. Chloroform was administered by Assistant Surgeon O. Chrysler. So feeble was the heart's action under the influence of the anæsthetic, that grave fears were entertained lest the patient would not survive the operation. A long anterior and a short posterior flap of the skin, with a circular division of the muscles, and a periosteal flap of the femur, characterized the operation. The arteries were tied with catgut ligatures, the capillary oozing was arrested by the application of hot water, the flaps were approximated by a continuous suture, and the stump dusted with iodoform and enveloped in iodoform gauze. The amount of hemorrhage was surprisingly small in consequence of the atheromatous thickening of the femoral artery and its branches at the expense of the lumen of the vessel and the formation of a thrombus. The patient stood the anæsthetic badly, and suffered much from the profundity of the shock. He was placed in bed with the foot of the bed elevated for several hours after the operation, in order to prevent syncope, and brandy and water administered to promote reaction from the shock. March 20th, 6:30 A. M. Temperature, 101; pulse, 96; respiration, 22. 6 P. M. Temperature, 102.6 F.; pulse, 98; respiration, 26. Intellection is now clear, though at times since the operation a low muttering delirium has manifested itself. A slight oozing of blood has seeped through the dressings, rendering their change necessary. A gangrenous odor

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and necrotic patches upon the flaps show that a general sloughing is about to be established in the stump, which is dressed daily with liquor sodæ chlorinatæ, applied on absorbent cotton, or marine lint. This application serves, at once, the triple purpose of a bactericide, a disinfectant and a deodorizer. A half ounce of brandy is ordered to be taken every three hours, either with water or in the form of milk punch or egg-nog. His diet consisted of farinaceous articles of food, with milk, eggs and the animal broths.

March 22d.—Gangrene is now fully established, the soft parts are sloughing and the femur is protruding beyond the flaps. There is now no alternative but to remove the sutures and treat the stump as an open wound. Two centigrams of the sulphate of morphia in solution are administered hypodermically at 8 P. M., and repeated when required.

April 19th.—The sloughing of the flaps and the retraction of the soft parts by muscular action have exposed the femur to the extent of ten centimeters. This has been this day dissected from the soft parts, a periosteal flap being formed to cover the distal end of the femur, the protruding bone sawed off and the stump dressed with iodoform and iodoform gauze. The gangrene has disappeared from the surface of the stump except at one point, where a fistula leads to a sinus in the intermuscular plains ten centimeters in depth and gives exit to a free discharge of pus. At first an iodoform gauze tent is introduced into the sinus through the fistula, subsequently a drainage tube and the parts injected with an antiseptic solution. After the lapse of ten days the fistula closed, and the discharge ceased.

May 22d.—Under the influence of a daily antiseptic dressing of one part of liquor sodæ chloratæ to ten parts of sterilized water the stump is healing, and by the use of a highly nutritious diet and a moderate use of stimuli the patient is convalescing. He is rapidly gaining flesh, his color has returned, his health is being restored, his recovery is assured, and the success of the operation is no longer a matter of doubt.

June 18th.—It is now three months since the amputation was performed, and two months lacking a day since the excision of the protruding end of the femur, and at last the wound has healed, with a cup-shape, non-sensitive stump, to which an artificial limb may be readily adapted. The patient is fully restored to health, and moves about the Home grounds in a wheel-chair.

A thrombosis of the right popliteal artery, with resulting gangrene of the foot, rendered the amputation of the thigh at its lower third necessary, and the operation was performed August 27th, 1894, by Surgeon Walter H. Leighton, resulting in the death of the patient at 9:40 P. M., October 12th, 1894.

A Case of Abscess of the Liver.

By F. C. Wood, M. D., West Salem, Wis.

Mr. R., German: age, 45; occupation, farmer; habits good; family history negative; health had always been good, except occasional attacks of constipation, alternating with diarrhœa.

First illness began about May 1st, 1895, and persisted nearly four months. Attack began with chills and fever, accompanied by tenderness across upper part of abdomen. During the course of this attack there were anorexia, vomiting, emaciation and one or two slight attacks of jaundice. Fever was quite constant during the afternoons, with sweating at night. Chills occurred a few times in the evening. Severe pain was present in upper part of abdomen four or five times, and lasted from three to twelve hours; at other times there was dull pain or only tenderness on pressure; pain was relieved by vomiting. I could not learn whether a chill followed a severe paroxysm of pain or not. These symptoms gradually subsided, so that the patient was entirely free from pain and fever, and was able to do light work for eight months, or until about May 1st of this year, when he again became sick while engaged in whitewashing the ceilings of his house. The second attack was characterized by about the same train of symptoms as the first.

I first saw the patient September 23d last. The previous history is rather meager, but as accurate and full as I could obtain. Of what had been attempted by previous medical treatment I know nothing. I found the patient emaciated, complexion sallow and quite weak; temperature at 5 P. M., 101½° F.; pulse, 110; respiration, 30; lungs normal; urine normal, except high colored; abdomen distended and painful along the region

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of the transverse colon. Cathartics and large rectal injections were ordered, which unloaded the distended colon in three or four days and gave some relief. A hardened area, triangular in shape, was now discovered, the base extending from the region of the gall bladder to the median line of the abdomen along the lower border of the liver and undistinguishable from the liver by palpation or percussion, the apex extending to within two inches of the umbilicus. Liver did not seem enlarged.

For the next few days the patient was put on a supportive treatment and bowels kept regular. Evening temperature ranged from 100° to 101½° F., usually followed by perspiration and a normal morning temperature. Diet consisted of milk. No vomiting; urine dark colored, but normal in quantity and contained neither albumen nor bile.

October 4th.—Dr. C. H. Marquardt, of La Crosse, was called in consultation. At this time the hardened area had extended to within one inch of the umbilicus, was firm and sensitive on pressure, dull on percussion; no bulging of the abdominal wall. Thinking the hardened area might be inflammation in and about the gall bladder, caused by gall stone, medicinal treatment on that line was instituted, and patient's consent to an operation obtained, provided no improvement followed medicinal treatment.

October 7th.—Patient feeling better. Slight bulging of abdominal wall over area of dullness, particularly over the region of gall bladder. No chills since last visit.

October 10th.—Patient worse for the last twenty-four hours. Tumor decidedly enlarged, extending from the middle of lower right hypochondriac region to one inch below and two inches to the right of umbilicus; from there it extended to the costal cartilages two inches to the left of sternum. Pressure produced more pain than previously. No fluctuation discernible; patient jaundiced; bulging of abdominal wall over tumor; no redness of skin. Deep breathing caused pain in region of tumor.

On the following day an exploratory operation was made by Dr. Marquardt, assisted by Dr. McArthur, of La Crosse, Dr. Yates, of Bangor, and myself. The tumor was found to be an enlarged liver, which was free from adhesions to the abdominal wall and adjacent viscera. An aspirator revealed pus in the substance of the right lobe of the liver. The wound was then packed with gauze to await formation of adhesions between the abdominal wall and liver before making free incision. Patient seemed strong after the anesthetic, but collapse soon followed, and he died six hours after operation.

Post-mortem within an hour after death showed the liver honeycombed with abscesses; gall bladder free from inflammation, and bile clear; intestines normal in appearance. Pus was not examined microscopically. Macroscopically about half of the pus was of a grayish, creamy appearance, and the rest dark brown, probably from admixture of bile and necrosed liver substance. Odor of pus distinctly fœtid. There were no yellowish bodies in the pus visible to the unaided eye which would suggest actinomycosis; no evidence of tuberculosis elsewhere in the body.

The case is chiefly interesting to me because of the long remission of symptoms between the first and second attacks, when it would seem from the symptoms that pus had formed in the liver during the first attack.

The Conservation of the Human Ovary.

BY E. F. FISH, M. D., MILWAUKEE, WIS.
Professor of Gynecology in the Milwaukee Medical College.
Read Before the Brainard Medical Society, October 14, 1896.

I have chosen for my subject the human ovary, as I am firmly convinced that it is the one element in a woman's anatomy on which every budding gynecologist and cœliotomist has his eye. In a paper recently written I said that castration appears to have been the popular operation. I wish now to qualify that statement by saying that it is a much-abused procedure. Of all the chirurgic parade and ostentation connected with gynecology, normal ovariotomy by cœliotomy is the most simple, and as a consequence the most dangerous. The only instruments required for a simple, uncomplicated oophorectomy are a jackknife, needle and thread. The only caution necessary is summed up in the word Asepticism. I repeat that its very simplicity stamps it as the most dangerous section of the surgical diseases of women. The rising generation of surgeons is constantly on the alert for self-aggrandizement, and its every energy is taxed to the limit to secure

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opportunities. Three-fourths of the young men who now graduate at our medical colleges go into the world far better prepared to do surgery than you and I were. We used to look at the surgeon with awe and respect, the present graduate views his work only to criticise. These young men locate, hang out signs and patiently await business; it comes slowly, and generally there is not much compensation attached to what does come. They have been educated never to advertise, never to allow their names to appear in the daily press. All this works for a time and only for a time. The young physician reads in the daily press that Dr. A., whom he knows to be a very staunch stickler for the Code, has done a wonderful operation; he has removed the spleen, tapped the fifth ventricle or done a Porro. At first he believes the story of the surgeon, who deplores this publicity. A little later he finds that all these things come to the press by financial or other influence. He then determines no longer to follow like "dumb driven cattle." Toward woman, then, the eyes of Argus turn. She has her recurrent aches and pains, she seeks for and wants relief, she places confidence in her physician and yields in submission to his professional advice. A lady patient steps into this young doctor's office. A physical examination follows, the uterus is found retroflexed, the ovaries cystic. The woman is prepared for cœliotomy, and the operator dreams of the seductive words salpingo-oopherectomy, hysteropexy, Alexander's operation, Pryor's posterior exudate, etc. Following the dream comes the asexualization, the details come out in the daily press, and the simple doctor becomes the *great abdominal surgeon!* The foregoing is no fancy picture. Every day, on every hand, in almost every clime, this ruthless mutilation of womankind continues. When I review my own work I can call to mind enough of this so-called abdominal surgery to bring out a full crop of *cutis anserina*. It is in view of this, and in view of the knowledge that many of us are contesting the field of gynecic surgery that I have deemed it proper to direct your attention to the ovary. Castration for hypertrophy of the prostate gland has never become a popular operation among men, not even very old men. I call to mind an old gentleman, past seventy years of age, whose prostate gland was so enlarged that it was only with great difficulty a catheter could be passed, and who had to be relieved many times in twenty-four hours, yet upon suggesting castration, he replied that he would rather die. Is not the ovary akin to the testicle? In my experience in abdominal surgery, I have seen some of the most flimsy excuses made to justify ovariotomy. Not long ago I witnessed an operation for supposed pus-tubes. On opening the abdomen the tubes were found to be normal, the ovaries about normal in size, but cystic, and the uterus enlarged to about the size it ought to be at the third month of gestation, and elastic. Upon inquiry I learned that the woman was about thirty years of age, apparently in good health, married, and that she had not menstruated for three months. It was claimed that she was having an evening temperature. I suggested that she might be pregnant, whereupon the surgeon replied, "Perhaps that is so, and perhaps it is an uterine myoma undergoing degeneration. We will remove the ovaries, because if she is pregnant it will do her no harm, and if it is an uterine myoma their removal is the proper procedure." That seemed to me to be gynecology with a vengeance. I am often led to doubt whether the great advancements and achievements in surgical gynecology are not more than offset by this wholesale unsexing of women. Can we wonder that such men as Polk, Dudley, Henrotin, Kelly, Kollock, Murray, McMonagle, Goodell, MacLaren and others are constantly pleading to the profession for woman's protection. The leading article in the *Journal of the American Medical Association* of recent date is entitled "Conservatism in Ovariotomy," and it is not the wail of a sentimentalist. The protection of the ovaries and the maintenance so far as possible of woman's integrity, is the coming practice. If in the commercial world protection opens the factories and foundries and gives employment to the needy, so in the gynecological world it gives the woman a chance.

This promiscuous spaying of our wives and daughters and sisters is one of the concomitant features of atheism and agnosticism.

In our practice we are often consulted for disturbances of menstruation, and we will probably often discover cystic ovaries. What do we ex-

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pect to do? Remove the ovaries, I suppose. That is radical; that is aggressive; that is heroic; but let me beg of you to go slow. Incision and excision are seductive terms, but they are not always followed by gratifying results. I have excised tubes and cystic ovaries for the relief of neuralgia and other pathologic conditions, and to my mortification no benefit followed. I have removed them only to learn that the patient would continue to menstruate, and continue to suffer the same pains the operation was intended to relieve. What is a cystic ovary? I venture the statement that three-fourths of the women in Christendom have cystic ovaries. I speak now of small cysts in the interior of the ovary. Their formation is probably the consequence of menstruation, menstrual hyperæmia, if the blood pressure is not sufficient to rupture the follicle, or the rupture is prevented by thickening of the tunica albuginea, or the too deep situation of the follicle in the stroma. In such conditions menstruation continues, ovulation is uninterrupted, and pregnancy takes place. They furnish, however, an excuse for the gynæcologist to draw his scalpel, and they are the conditions I refer to in speaking of the wholesale unsexing of women. I trust you will consider these remarks seriously. Bear in mind that we have tried unsuccessfully to turn the tables on the men. We learned that castration will cause atrophy of the prostate gland to take place, but we could not make the operation popular. We then attacked the vas deferens with the same result. We finally had to go in above the pubes. As zealously as man guards his testicles, so conscientiously ought we to protect a woman's ovaries. Don't think that because they are out of sight they will never be missed. We will meet with enough opportunities to display our skill by awaiting the legitimate results of attention to business. Inured by seventeen years of practice and tempered by ten years' experience in the bad lands of Eastern Montana, I blush for my fellow-practitioners when I read their dissertations headed something like this: One hundred and sixty salpingo-oophorectomies without a death; seventy-five consecutive ovariotomies, with but one death; two hundred and fifty cases of dysmenorrhœa cured by Batty's method of spaying, etc.

Such reports are seen every day. I am even told that in Milwaukee women have been unsexed to prevent conception. The knowledge of these things should furnish us food for calm reflection. I am not addressing you for the purpose of arousing sentiment, but to beg for justice.

I do not pretend to claim that the ovary should never be removed. There are conditions that demand a procedure so radical. Let us try to select only such as require surgical interference. We should remember that cysts may be opened, that parts of the ovary may be excised, and the remainder will continue to perform its function. Pelvic abscess, peri and pera uterine septic disease, extra-uterine pregnancy, and even pyosalpinx have been and are being cured by vaginal and supra-pubic drainage.

Pregnancies following the removal of both tubes and ovaries have been known to occur. Drs. S. C. Gordon, R. S. Sutton, Lapthorn Smith and others have reported pregnancies following the removal of both adnexæ. Dr. Sutton reports a case where he removed from one side a twenty-five pound multilocular ovarian cyst, and from the other side a six pound ovarian cyst. Sixteen months later the woman gave birth to a ten pound boy, and about eighteen months after this to another eight pound boy. This simply shows that some of the ovarian tissue had been left, and how little is necessary for ovulation to continue. It shows also that probably if only a small stump of the tube is left, and the ligature disappears, allowing the end of the amputated tube to lie patent, the ova may find their way to the uterus. It is a silent plea to excise only the diseased portion of the reproductive organs. It is nature's prayer for protection. This practice is certain to replace the passing craze for cœliotomy and general ablation of the organs of generation. The surgeon who disregards the teachings of to-day, the surgeon who follows stubbornly in the tracks of departing practice will live to rue his folly.

In conclusion I wish to say that I have no apology to offer this society for presenting a paper of this nature. There is no doubt that a great deal of avoidable gynecologic work is done in the line of destruction every day. Even some of the leading men of the world advocate measures so radical that it is with great difficulty many of us can re-

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sist the temptation to follow in their wake. Take for example the great Schauta of Vienna. In his clinical work he advocates that whenever we find an gonorrhœal pyosalpinx confined to one side, the entire organs of reproduction must be sacrificed. We all know how difficult it is sometimes to diagnose an gonorrhœal pyosalpingitis. Schauta claims that when we do not find the coccus in the pus it will be found in the pus sac. It is not unnatural to suspect that he, who is so radical in his views, might easily detect the bacillus gonococcus in pus and pus walls after others have failed. Take Polk, of New York, one of the most conservative men in his way, still he is classed with them who advocate the removal of the uterus in excision of the appendages. This subject broadens as I proceed. I find I am dipping too deep in the pelvis. My paper is entitled "The Conservation of the Ovary," and I must not stray too far from the subject. I will close by saying that the mere mention of the word "Conservatism" is no longer met by the sardonic smile which greeted every reference to it in the recent past. 211 Grand Ave.

Formalin.

BY V. A. GUDEX, M. D., C. M., D. D. S.

Prof. of Bacteriology, Milwaukee Medical College.

Formalin is a colorless, neutral liquid, with a disagreeable, penetrating odor. It was first manufactured and dispensed by the factory of Actien (formerly E. Shering) as a forty per cent. aqueous solution of formaldehyd.

Formaldehyd is the first product of the oxidation of methyl alcohol and air passed through red-hot platinum tubes, coke or heated oxide of copper.

$$\underset{\text{Methyl Alcohol.}}{HCH_2OH} + \text{air} = \underset{\text{Formaldehyd.}}{HCOH} + \underset{\text{Formic Acid.}}{HCOOH}$$

This, on farther oxidation, yields formic acid. Through careful distillation the methyl alcohol is separated, and a forty per cent. solution of formaldehyd is the result.

Pure formaldehyd is a gaseous substance which, as such, cannot be dispensed. The only practical way of handling it in commerce is in an aqueous solution, being very soluble in water.

A forty per cent. aqueous solution* is the most concentrated form that can be manufactured. A stronger solution cannot be obtained unless at the expense of its purity. By insufficient distillation there will be an excess of methyl alcohol; by too long boiling, through the polymerization of the formaldehyd, paraformaldehyd and trioxmethylin will result. (Loebisch.)

The germicidal action of formaldehyd was first pointed out by O. Loew, and later by Berlioz, Trillat and Aronson. Berlioz and Trillat found that the fumes in a volume of 1.50000 effectually prevented the growth of anthrax bacilli.

The drug, however, did not gain any preference in the profession until the numerous experiments of Stahl had become known. He subjected formaldehyd to a comparative test with bichloride of mercury:

A 1.1000 solution of formaldehyd destroyed anthrax spores in one hour; a 1.750 solution reduced the time down to fifteen minutes. A 1.1000 solution of bichloride of mercury destroys anthrax spores in a few minutes (Koch); in fifteen minutes (Woronzoff.)

Stahl found that a volume of air impregnated with 2.5 per cent. of formalin destroyed all microorganisms and their spores if left to act for only a short time. Cloth was also easily disinfected by placing blotting paper saturated with a 2 per cent. solution and allowing the fumes to penetrate. Formalin has the property of easily evaporating, and does not injure the color or the fabric.

K. B. Lehman's experiments show that the fumes of a drachm and a half are sufficient to disinfect a capacity of about a gallon. A mechanically clean instrument will be rendered aseptic in less than one hour by subjugating it to the fumes of formalin in a closed chest in the above proportions without injury to the metal or other parts of the instrument.

The cheapness of the manufacturing process is also worth considering. It is claimed that if the demand were great enough it could be manufactured for less than three cents per pound.

The physiological action of formaldehyd differs a little from the forty per cent. solution (formalin). The fumes sufficiently diluted with air do not injure the respiratory mucous membrane or general health. Concentrated fumes are highly irritating,

*This solution is known as formalin.

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resembling somewhat the choking effect of chlorine gas. The toxicity of a concentrated solution administered internally is greater than chlorine gas (Aronson) administered internally; it is not as destructive as when applied to the skin. It cannot be found in the urine, but is reduced to formic acid in the system, which is found there in very large quantities.

Applied locally it presents a few peculiar characteristics. Fresh pieces of skin immersed in formalin are changed into a leathery consistency. Formaldehyd or formalin when applied to the ear of a rabbit for a few days, at first produces redness and swelling; then the ear changes to a leathery consistency, and finally will become so hard that it can be broken off piece after piece with no suppuration about the line of demarkation. This should serve as a warning when using a very strong solution externally. Formaldehyd also coagulates albumen and clots blood; the latter it transforms into a transparent mass.

As an antiseptic in surgery where immediate disinfection is required, formalin is of little or no value, since continued action is necessary in order to bring about the result. The longer it can act the more potent the result. Bichloride of mercury is most active during the time it is first applied, but soon becomes weaker, due to the unstable condition of the bichloride and its affinity for albumen.

Vallude found a 2.5 per cent. solution of formalin valuable in panophthalmia and blenorrhœa neonatorum. He also found he could preserve atropine and eserine solutions for months without decomposing, by adding one part formalin to a thousand of solution. Winckel recommends a one to a two per cent. solution of formalin for chronic nasal catarrh.

It has no superior as a disinfectant of the sick room, taking the place of sulphur fumes or chlorine, its action being non-irritating and more permanent. Trunks, cloths and papers can easily be disinfected with formalin by placing moistened blotters between them. Clothes with anthrax bacilli in the pockets, put in a trunk of 100 litre capacity, were completely disinfected with 30 grams of formalin, the moist blotters being laid between the layers of cloth. Brushes and combs are readily disinfected by subjecting them to formalin fumes in a closed box. Tannery odor in shoes can also be destroyed in the same way. No disinfectant has yet been discovered that is as useful for the disinfection of library books as formalin. The method of procedure is so simple, and the cheapness of the material make this drug indispensable to the public or circulating library. Books placed in an air-tight box so that the leaves remain partly apart, can be thoroughly disinfected with formalin fumes over night.

It is sincerely to be hoped that hereafter librarians will exercise more care in the distribution of books used by consumptives among the healthy without disinfection. Formalin also has the property of penetrating and hardening gelatin so that it will not liquefy again. Cultures of bacteria on gelatin can be destroyed at different periods of growth, without destroying their shape, the gelatin hardened and permanently preserved.

Brewers, wine dealers and some engaged in canning fruits, are already taking advantage of this drug to preserve such articles that would otherwise putrefy, and to make saleable such as have undergone partial putrefaction.

By carefully examining the properties of this drug, it commends itself to every office and every household.

Reprints.

DIAGNOSIS of Tuberculosis from the Morphology of the Blood: An Original Research, with Report of Cases. By A. M. Holmes, A. M., M. D., Denver, Col.

COLOBOMA of the Optic Nerve and Retina, with Persistent Opaque Nerve Fibers. Illustrated. By H. V. Würdemann, M. D., Milwaukee, Wis.

DEGENERATION in Criminals, as Shown by the Bertillon System of Measurement and Photographs. By W. A. McKorn, M. D., Kankakee, Ill.

MORTALITY from Suicides. By E. J. Marsh, M. D., Medical Director the Mutual Life Ins. Co., New York.

THE Occurrence of Optic Nerve Atrophy in General Disease. By H. V. Würdemann, M. D., Milwaukee.

THE Technics of the Buried Tendon Suture. By H. O. Marcy, A. M., M. D., Boston, Mass.

LEGISLATION for the Prevention of Blindness. By H. V. Würdemann, M. D., Milwaukee, Wis.

INTESTINAL Obstruction After Laparotomy. By H. O. Marcy, M. D., Boston, Mass.

HYSTERIC Deafness. By H. V. Würdemann, M. D., Milwaukee.

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Translations.

A Case of Superfœtation.

Gustin reports the following case in *Archives de Gynecologie et Tocologie:* A woman, aged 33 years, married four years, had a child in 1893, another born at 7½ months in 1894, which lived two years; then a miscarriage of six weeks in 1895.

Cessation of menses February 22, 1896. The probable pregnancy seemed to develop normally, when very severe pain set in low in the abdomen the fore part of April, without any known cause, and without modifying the general health of the patient.

April 18th began a typhoid fever, which developed normally, convalescence beginning about the middle of May (15).

On May 25th, suddenly, without apparent cause, abundant hemorrhage, followed by expulsion of two fœtuses; one 12 centimeters long, of masculine sex, the other 3 centimeters, with members formed and the fingers very apparent.

There was no decomposition, no maceration. There was the same coloration of the tissues, indicating that intra-uterine life ceased at the same time, and making inadmissible the hypothesis of of an arrest of development in one of the fœtuses.

There was, then, a superfœtation; the first fœtus 12 centimeters long was of three months gestation, from the 22nd of February to the 25th of May; the second fœtus of three centimeters, was of about 6 weeks of intra-uterine life. Conception beginning the first days of April, which might, perhaps, give an explanation of the abdominal pains experienced at that time, ten to twelve days before the evolution of typhoid fever.—*L'Independance Medicale, No. 32, 1896.* W., TR.

Syphilitic Infection from a Razor.

Catrin, of Val de Grace, reports the following: Patient, 27 years old, in September, 1894, contracted an infecting chancre, soon followed by secondary affections—roseola, mucous patches. The attacks of mucous patches are very frequent, and, in spite of treatment, improve but little.

In July, 1895, the father of this young man, making use of his son's razor, cut his chin; the cut became transformed into an ulceration with indurated borders, accompanied by quite large and painful submaxillary adenitis. The chancre did not cicatrize until December, and at that time a characteristic roseola appeared. Treatment by rather large doses—20 centigrammes—of protoiodide, which brought on a grave stomatitis, altering in a remarkable manner the health of the patient, aged 71 years, which had until then been excellent. Recovery from this stomatitis was very slow. In March, 1896, a double iritis developed, which rapidly reduced visual acuity to ⅛ right to 1¼ left eye, but which rapidly improved under the influence of mixed treatment, taking care to graduate the use of the Hg. By April 25 the visual acuteness had raised to ⅓ in both eyes, but the pupillary deformities persisted.

The author insists that according to the terrain a benign lesion may become grave, which once more demonstrates the necessity of careful clinical observation, too much neglected to-day.—*—Gazette Med. de Paris, 1896, p. 303, No. 26.* W.

Treatment of Hemorrhage by Antipyrine.

Brasse has obtained excellent results in arresting hemorrhages from divers causes by the administration of antipyrine. Three cases of hemorrhage in "gripped" patients treated by antipyrine in potion, in doses of one gramme thrice daily. In all cases the hemorrhage stopped in about five to ten minutes, the hemostatic action lasting three to four hours. A definitive result was obtained with the third or fourth gramme.

The author also employed antipyrine in the same doses in a profuse hemorrhage of the menopause after ergotine injections and hamamelis had failed. The final result was obtained with the seventh gramme.

Several times the result was obtained with the second or third gramme for metrorrhagias due to fibroma, after failure of ergotine injections and hydrastis canadensis.

In a case of vesical hemorrhage having brought on a retention in an old man attacked with tumor of the walls, antipyrine in doses of one gramme at 4 o'clock and at 7 o'clock permitted emptying of the bladder at 8:30 o'clock without causing reappearance of the hemorrhage.—*Bull. Gen. de Therap., 1896, 15 Aug., pp. 141–2.* W.

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The Meeting of the Northwestern Medical Association.

The meeting of the Northwestern Medical Association was not as largely attended as expected, but made up in interest and enthusiasm what was lacking in numbers. The misunderstanding in regard to dates doubtless had considerable to do in lessening the attendance. However, Dr. Zeit, who was not only host, entertaining the members most bountifully, but a whole host in himself, contributed largely to make the meeting a success. He had gathered together some fifteen medical cases for diagnosis and treatment, also some surgical cases, including biliary calculi and tubercular joints. The medical cases were disposed of by Dr. Zeit, Dr. Van Neupert and Dr. Earles. Dr. Earles also gave a surgical clinic. Dr. Sauerherring, who has been preparing a paper on the use of thyroid extract, which was to have been read at this meeting, was not present. Other gentlemen who were on the programme also failed to appear. It is to be expected that at the Wausau meeting in January they will make up for their derelictness. Numbers are not always necessary for the success of a meeting, rather the enthusiasm and love for scientific work which should characterize all medical societies makes for success. Of this spirit the Northwestern Medical Association has no small share, hence it is that all of its meetings are marked by substantial gain to those who make the necessary sacrifice.

Meeting of the Brainard Society.

The October meeting of the Brainard Society was quite an interesting one, and the attendance was fairly good. Dr. Mackie had his usual morning surgical clinic, which is always of interest, and in the afternoon an interesting paper was read by Dr. Batchelor on sterility, also one by Dr. Fish on the conservation of the human ovary, which we present in this issue. Dr. Neilson read a short paper on the relation of the general practitioner to the practice of gynæcology. Dr. Juergens reviewed the subject of lithiasis, and the discussion was led by Dr. Sayles, followed by Dr. Neilson. The other papers elicited interesting discussion and were well received. Dr. Fisk presided with his usual affability, and everything moved on very nicely. Dr. Ivins Comfort reported two interesting cases of popliteal aneurism, which are given in this issue.

Annual Meeting of the Practitioners' Society.

The Practitioners' Society held its annual meeting on the 18th inst. The officers elected for the ensuing year are: E. W. Bartlett, President; Arnold Drexel, Vice-President, and E. F. Fish, Secretary and Treasurer. After the transaction of minor business, Dr. Neilson was called upon for a paper. He presented one on the relation of the general practitioner to the practice of gynæcology, which had done duty on a previous occasion. Reprehensible as a practice of this course might be, it was very interesting to note how differently a paper may be received and how our inclinations color our views. When read at the previous meeting, where those present were general practitioners, the views presented were generally accepted as concurring with the sentiments of those present; but in this meeting,

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where several specialists were present, it was torn to pieces in a most unceremonious way. The writer's experience was very much like that of a "certain man who went down from Jericho," and his wounds might still be unbound if it had not been for "a good samaritan" in the shape of a brother practitioner who came to his rescue. The growth of specialism has some interesting phases. From being the ally of the general practitioner the specialist now assumes to dominate his especial field to the utter exclusion of his aforetime ally, and browbeats him unmercifully if he but dare to cast a longing glance towards his erstwhile fat pasturage. It is the fable of the camel and the Arab's tent exemplified. Say the gynæcologist and the surgeon: No man should meddle with my field unless he have special training. This is all very well and should absolutely be so, provided we have correct ideas of the limitations of the special fields. But we all know that there is a large class of cases on the borderland claimed by these gentlemen, which, if they belong to any one by reason of special training, belong to the general practitioner. He of all men is best fitted to cope with the many ills of local origin, but with far-reaching systemic effects and complications where operative procedures are not indicated. And, indeed, were practitioners more alive to their own powers and advantages, many cases which now submit to operative procedures would find relief and cure at home, and the glory of it would be due to the general practitioner, the bulwark of the profession. After the discussion of the paper, Dr. Bartlett exhibited syringes for the application of ointments. Also various powder blowers. One especially deserves mention as being the Doctor's own invention. It consists of an ordinary hard-rubber syringe, the nozzle end unscrewing for the better introduction of the powder. A soft rubber tube with bulb-blower attachment is connected at the junction of the barrel and nozzle. By compressing the bulb and at the same time pressing the piston, the powder is delivered in the most delicate cloud or in masses at will, by simply regulating the pressure on the piston. The next meeting will be on the evening of the first Wednesday in December. Drs. Earles and Hill have promised papers, and a good attendance is expected.

American Association of Obstetricians and Gynecologists.

The American Association of Obstetricians and Gynecologists, at its ninth annual meeting, held at Richmond, Va., elected the following-named officers for the ensuing year, namely: President, James F. W. Ross, M. D., Toronto; vice-presidents, George Ben Johnston, M. D., Richmond; and John C. Sexton, M. D., Rushville, Ind.; secretary, William Warren Potter, M. D., Buffalo; treasurer, Xavier O. Werder, M. D., Pittsburg; Executive council, Charles A. L. Reed, M. D., Cincinnati; Lewis S. McMurtry, M. D., Louisville; A. Vander Veer, M. D., Albany; J. Henry Carstens, M. D., Detroit, and William E. B. Davis, M. D., Birmingham.

The next annual meeting was appointed to be held at the Cataract House, Niagara Falls, N. Y., Tuesday, Wednesday, Thursday and Friday, August 17, 18, 19 and 20, 1897.

The Leeuwenhoek Society.

The Leeuwenhoek Society gives its annual Thanksgiving entertainment at the college amphitheater on the evening of the 24th. An elaborate programme has been prepared, and several hundred invitations sent out. A very good time is anticipated. The society meets twice a month in the college, spending a pleasant evening in music, songs, reading of papers and a general good time. It is also customary, from time to time, for a member of the faculty to deliver an address on some subject, not scientific, but pertaining to the profession. In addition to the annual entertainment, this society gives an annual banquet to the fellows and to the professors of the college. A society of this kind can do, and this one does do, a great deal of good in bringing students into closer relationship and in relieving the weariness of constant application.

News and Miscellany.

The health of the city is good.

Doctors are complaining of little work.

Druggists are consequently grumbling.

We would suggest that physicians, in sending in their reports of cure or death from diphtheria to the health department, would briefly outline the treatment pursued. Thus would valuable statistics be secured.

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ANTITOXIN is constantly making converts among the physicians. It certainly has marvelous effects. Used in diphtheritic croup in time, the membrane seems to melt away.

MILWAUKEE Medical College is humming with 209 matriculates. Not a bad showing for the third year. The teachers are all doing good, earnest work, and the clinics are flourishing. There is ample clinical material for all the departments, and the students are correspondingly happy. The classmen have organized a foot-ball team, and are practicing preparatory to challenging the Rush team.

DR. C. VENN has resigned from the superintendency of the Hospital for Chronic Insane of this county and gone to Chicago, where he enters general practice with his brother. Dr. Beutler succeeds him. The position carries with it a salary of $1,800 per year and board for the official family and the annoyances which belong to a semi-political office. We wish both gentlemen success in their new ventures.

DR. P. J. MCGOVERN, of Milwaukee Medical College, has taken unto himself a talented young lady as wife. Congratulations are in order. The Histologic students showed their appreciation of him and of the event by an appropriate present, tendered with a fitting speech. Rumors are rife that more of the bachelors connected with the school are about to abandon the state of single blessedness. May the good work go on.

Publishers' Column.

A Case of Cerebro-Spinal Meningitis Complicating Gonorrhœa Treated by Antikamnia.

The concluding remarks from the above article, by G. S. Leggatt, M. R. C. S., England, L. S. A., taken from the *Lancet* (London), are interesting from both therapeutic and physiological standpoints.

"*Remarks.*—1. This a rare complication of gonorrhœa, and, as far as I can find, is not mentioned in any of the books which refer to the subject; but bearing in mind the similitude of structure between the meninges and the joints there seems no reason why they should not be occasionally attacked in a manner similar to the latter.

"2. Antikamnia is a remedy said to possess analgesic, antipyretic and anodyne properties. Its dose is three to ten grains, and it will be observed that the doses I gave were large ones; but the symptoms were extremely urgent, and it is interesting to note that there was no depression. During its exhibition the pulse improved in force, and the administration of the drug reduced the temperature to normal, and seemed in this respect to be greatly superior to that of phenacetin.

"3. As to the diagnosis it is difficult to know how the symptoms, which were of a most pronounced kind, could be accounted for on any other supposition than involvement of the fibrous textures of the spine and cranium. That the disease did not more definitely and more permanently attack the pia mater and arachnoid is probably due to the the prompt administration of the antikamnia and salicylate combined, which seemed to me to prevent the optic neuritis and other more obvious and serious consequences of an established meningitis."

IN regard to the presence of *phosphorus* in Protonuclein, it is only the *normal* presence—as it exists in the organism—in other words, it is perfectly physiologic, and absolutely necessary to the functional activity of the other therapeutic agents that enter into its composition. In no instances have we found any *untoward* results, and we have carefully guarded against any *phosphatic* action upon the kidney, when contra-indicated by the benzoic vapor which, as you know, will *neutralize* any pathologic effect that Protonuclein could stimulate and *per contra* utilize the presence of this agent in the building of the nerve tissues and the osseous parts of the body.

All of the *phosphorus* in Protonuclein is normal, and goes directly to its own tissues. The principle of Protonuclein as a therapeutic agent is summed up in one word—structure. It builds up, but has no tendency to destruction.

Faithfully yours,

REED & CARNRICK.

Report No. 15.—Series A.

PROCESS FOR DETERMINING THE PRESENCE OF IODINE IN PROTONUCLEIN.

Take thirty (30) grammes of the Protonuclein Special Powder and place in 100 C. C. of 10% sulphuric acid, and boil for five hours under an inverted condenser. After cooling, filter and wash

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filtrate with water, and then place in 250 C. C. alcohol and raise to a boil. Then filter off the alcohol and place filter paper with the residue in the boiling flask with 250 C. C. alcohol and raise to a boil, and filter as before. After repeating twice, the alcohol solution thus obtained should be evaporated to dryness on a water bath. After the alcohol has evaporated, add a little caustic soda, and continue the evaporation. The black residue thus obtained should be placed in a silver or platinum crucible with a small quantity of nitrate of potash and gently fused. After cooling add a little water and allow to remain over night. The next morning acidulate a portion of the solution with nitric acid, and then thoroughly shake after adding a small quantity of chloroform. The chloroform which settles at the bottom is of a violet color, indicating the presence of iodine. Faithfully yours,

REED & CARNRICK.

NEW YORK, Oct. 22d, 1896.

Clinical Report, No. 12.—Series A.

Mrs. E. F., 38 years of age, had been bed-ridden for eight years with ankylosis, to whom I was called during June last to treat an abscess of the labia majoria. I immediately ordered the use of Protonuclein in tablets, one three times a day. The abscess healed quickly, but was followed by a second one in the lumbar region, but it, too, quickly yielded to a continuation of the same treatment. A third occurred in the axilla; this and two felons that occurred were disposed of by a continuation of the treatment.

During her sickness she had prickly-heat, over the whole surface of her body, which was especially distressing over her bed-sores, which were extensive. But the bed-sores healed kindly, notwithstanding, and the prickly-heat disappeared without further treatment, and I give Protonuclein the credit of curing the prickly-heat as well as for the rapid healing of the abscesses. (Signed),

DR H. K. BELL,

130 First Place. Brooklyn, N. Y.

Treatment of Eczema.

BY DR. JAMES W. ROLE, PHILADELPHIA.

Eczema is one of the most common and also one of the most obstinate skin affections which the general practitioner is called upon to treat. We have eczema acute and chronic, and the picture of these cases is so familiar to every physician that we need not repeat it here. I have treated many cases of both forms, and of the different varieties with such excellent success, that it would no doubt be an acceptable bit of news to all of the readers of this journal to learn of my method. Internally I give Fowler's Solution in the usual doses, with elixir iron, quinine, and strychnine, in doses proportionate to age. Externally I apply Almondola, an ointment prepared from the extractives of amygdalus persica, twice daily. This preparation, manufactured by the Anchor Chemical Co., Akron, Pa., is one of the most remarkable preparations that has ever come to my notice, and I can heartily endorse it as a specific for almost any form of skin disease. It is non-irritating, penetrating, and wonderfully curative in skin affections.

When it is borne in mind that we have never been able to faithfully promise a cure in these affections heretofore, this remedy should be given a trial by any having these cases on hand.

Failure Owing to Substitution.

I have read and watched what has been said of Sanmetto, and often wondered why I did not get any results from it in my practice. When I received my September *Medical Brief*, and again reading of the grand results advertised therein by the Od Chem. Co., I went over the ground to try to find out the trouble. To my surprise I found that all my patients had been furnished and were taking Palmetto where Sanmetto had been ordered. I intend to watch this matter more closely.

SPOKANE, WASH. P. J. GERLACH, M. D.

Enuresis Nocturna.

Dr. A. B. Wilson, Buffalo, N. Y., writing, says: "This was a case of a girl nineteen years of age, suffering from irritable bladder, and who had wet the bed nightly from childhood. She was compelled to avoid company and the usual social life, on account of frequent micturition. One bottle of Sanmetto overcame the irritation to such a degree that for the first time in fifteen years she passed a night without wetting the bed. She is still using the remedy in hopes of complete recovery."

Asthma.

The bromides, belladonna and cannabis indica have been and still are the sheet anchors in this

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common and distressing malady. Trosseau, and others after him, was wont to push belladonna to the limit of toleration in Asthma, and thus he secured results equaled by no one of his time. A combination of these always efficient agents in Neurosine has in this disease given more satisfactory results than any other known remedy.

Spermatorrhœa.

Self-abuse, sexual neurasthenia, etc. The results in this class of cases, annoying alike to the physician and patient, are well expressed by a physician eminent in his work, who says: "Your Neurosine has given me at least satisfactory results which will warrant me in a further use of it."

Neuralgia.

The varieties of neuralgia are almost as numerous as the nerves of the body. Wherever there is a nerve there may be pain. In almost every form Neurosine will be found to give prompt relief, and if preserved with the interim of the attack the splendid effects of the bromide of zinc and cannabis indica as permanant nerve tonics and other bromides as alteratives may be confidently expected.

Selections.

The Uric Acid Diathesis—Its Causes and Treatment.

By Charles W. Pritchett, M. D., Keeling, Va.

Read before the Medical Society of Virginia, Session at Rockbridge Alum Springs, Va., September 9th, 1896.

The importance of this subject has claimed the attention of pathologists for a considerable period of time, but it is only within the last few years that the attention of the profession has been specially called to uric acid as a *factor* and *cause* of such a large number of diseases. To Alexander Haig, of London, we owe much for his investigations and most excellent work on this subject.

Uric acid is a constant constituent of the urine of carnivora. When pure it is colorless, but when deposited from the urine it is reddish or yellowish brown. It crystallizes in various forms, but *mostly* of the lozenge or diamond shape. It is odorless and tasteless, very slightly soluble in water, requiring 1,900 parts of boiling and 15,000 parts of cold water for its solution; it is insoluble in alcohol and ether. It dissolves freely in solution of alkaline carbonates and other salts.

Uric acid is dibasic; hence it may combine with potassium, sodium, calcium and ammonium to form acid urates, or it may combine with potassium, calcium and lithium to form neutral salts. Uric acid is formed chiefly in the liver.

The average quantity secreted in 24 hours is estimated at about two-thirds gramme. The proportions of urea to uric acid is about 45 to 1. Haig estimates it at 35 to 1. Uric acid, like urea, is increased in human urine by the use of animal food; decreased by the use of non-nitrogenous or exclusive vegetable diet. "The quantitative estimation of uric acid may be made by adding 10 cc. of hydrochloric acid to 250 cc. of urine, setting aside for 24 hours in a cool place, and collecting the crystals of uric acid on a small filter which has been previously weighed. The crystals are washed with a little distilled water, and dried at 100° F.

"If the urine should contain albumen, add a few drops of acetic acid, boil and filter."

"A rough estimate of uric acid in urine may be made by multiplying the last two figures of the specific gravity by two. This gives the quantity in centigrammes per litre."—(*Hoge.*)

Uric acid may also be detected by the murexid test, which consists in evaporating a small quantity of urine, to which a few drops of nitric acid have been added, in a white porcelain dish to dryness; this gives a rusty brown color; now add a few drops of a solution of ammonia to one side of the dish, and a purple color results. If to another part of the dish liquor potassæ be added, there is a violet color.

"A deposit of uric acid occurring after twelve hours has no pathological significance. If a deposit takes place in three or four hours, it is unnatural. If it deposits immediately, or as soon as the urine cools, it shows that the same thing may occur in the renal tract, and thus give rise to stone."—(*Hoge.*)

The quantitative estimation of urea may be made by the decomposition of urea by sodium hydrate and pure bromine. I shall not enter into a full description of it, as it would make this article too long. Haig states that there are three sources for the daily excretion of uric acid: (1) Uric acid or urate formed out of nitrogenous substances, along with a certain amount of urea, probably in the proportion of 1 of uric acid to 35 of urea; (2) Uric acid, urates, or other members of the xanthin group, as caffeine and other vegetable alkaloids introduced with the food;

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(3) Uric acid or urates previously stored in the body, which pass into the blood whenever the alkalinity of that fluid favors their solution in it. He uses uric acid as an inclusive term, meaning uric acid and its salts.

When, on examinatian of the 24 hours' urine, we find uric acid in the proportion of 1 to 40 or 1 to 45 of urea, we conclude that this uric acid was formed with the urea of this day, and passed directly from the kidneys into the urine, and that no uric acid was furnished directly from the stores of the body. If we find uric acid in the proportion to urea of 1 to 20 or 1 to 25, we conclude that the excess over formation (1–40 or 1–45) is made up from uric acid taken with the food or taken up from the stores of the body.

"Under these conditions it is quite easy to understand why all substances which form soluble compounds with uric acid or increase its solubility in the blood should increase its excretion; and why all substances which form insoluble compounds with it or diminish its solubility in the blood should diminish its excretion."—(*Haig.*)

If the excretion of uric acid is very low (1 to 50 of urea), we conclude that some of the uric acid formed on *this* day met with unfavorable conditions for the *solubility* in the kidneys, and was *retained* instead of passing at once down the ureter. The kidneys may contain an amount which varies from a small percentage to an amount which is plainly visible to the eye. From numerous experiments Haig concludes that the formation of uric acid is practically constant, its excretion varying with the amount introduced with the food and conditions affecting its solubility and the quantity previously stored in the body.

He states that it is obviously within one's power to control the excretion of uric acid by controlling the conditions affecting its solubility, and also the quantity directly introduced with the food or formed from it. If we examine a patient during an attack of uric acid headache, when there is an excess of uric acid in the blood and the urine, we will find that the pulse is generally slow and of high tension. It appears that this is due to the contraction of the arterioles and capillaries, of which there is sufficient proof in the cold skin and extremities which accompany the headache.

A little experimentation will convince any one that contraction of the arterioles varies directly with the uric acid circulating in the blood. The contraction of the arterioles is productive of two results: (1) A rise of blood pressure in the heart and great vessels on the proximal side of the obstructed vessel—high arterial tension; and (2) A deficient circulation and interchange between the blood and tissues in and on the distal side of the obstructed vessel.

"It follows from this that all drugs and disease processes which diminish the excretion of uric acid and clear it out of the blood will lower arterial tension and improve the circulation throughout all the organs and tissues of the body.

"The most important disease process having this effect is *fever*. Fever diminishes the alkalinity of the blood and prevents its holding much urate in solution. Drugs and diseases which increase the excretion of uric acid, and bring it through the blood in increased quantity, will raise arterial tension and diminish or hinder the circulation of the blood through all the tissues and organs of the body. Bright's disease, post-febrile conditions, dyspepsia, leucocythemia, pernicious anæmia, marasmus, and the cachexia of new growth, etc., are the most important disease conditions which have this effect. In all these conditions of low or failing nutrition there is generally an increase of the alkalinity of the blood, rendering it a good solvent for uric acid. There is present in post-febrile conditions a large supply of uric acid, which was held back and retained during the low alkalinity of the acute febrile attack.

Now, other things being equal, a dilatation of the arterioles of the kidneys means a free flow of urine, and their contraction means scanty urine; for this reason we have scanty urine during the uric acid headache, and profuse during the minus excretion of urates, which precedes and follows the headache. It appears from this that all drugs and disease processes which diminish the excretion of uric acid, and clear it out of the blood, must increase the flow of urine, and this is perhaps the most rational explanation of the action of many diuretic drugs.

With the exception of gout and rheumatism, all diseases that are connected with the uric acid diathesis are perhaps due to its effect on arterial tension and the interstitial circulation in the organs and tissues of the body. Headache, fits, mental depression, bad temper, vertigo, and many other minor disturbances represent the effects of high arterial tension on the intra-cranial circulation. Uric acid is, I believe, a very important cause of the above disturbances, but not the only cause; as other things may produce

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similar changes in the cerebral circulation, and therefore similar symptoms.

It is probable that asthma and bronchitis represent some of the effect of high arterial tension and contracted arterioles on the bronchial and pulmonary circulation, and this may also explain the connection between these diseases and gout and chronic Bright's disease. Dyspepsia may unquestionably be caused by contracted arterioles in the stomach and intestines, which inhibit gastro-intestinal digestion and allow putrefactive processes to take their place, and this will at least explain a part of the relationship existing between dyspepsia and such troubles as headache, mental depression, epilepsy, etc. We may have more or less stasis of the circulation of the liver and kidneys, just as in the stomach and the intestines, due to contracted arterioles produced by uric acid.

Now, any excess of water in the blood or tissues of the body is promptly excreted so long as the circulation through the renal arteries and capillaries remains free. This circulation through the kidneys may fail for two reasons: First, that the arterioles and capillaries are contracted and obstructed so that a normal heart cannot drive the blood through them (as in uric-acidæmia): or, second, that the arterioles and capillaries are normally free, but the heart, on account of weakness or disease, is unable to drive the blood through them. In either case there is a retention of fluids in the blood and tissues, and in both cases the heart is not up to its work either absolutely or relatively. In one, we must treat uric-acidæmia; in the other, the heart.

Undoubtedly uric acid has a very important effect throughout all the tissues and organs of the body. In physiology we find the excretion of uric acid varies inversely as the acidity of the urine. Let any one of us take a dose of citrate or bicarbonate of potash, and as the acidity falls the uric acid will rise; or take an acid, and as the acidity rises uric acid will fall.

We have entered quite freely into the discussion of the effect of uric acid on the circulation in order that we might better determine the pathological conditions produced by it, and be prepared to more accurately determine the cause and treatment of the uric acid diathesis.

Causes.—Leading an inactive and sedentary life, together with the habitual consumption of an excess of meats, meat extracts, acids, malt liquors, ale, beer or porter, wines, and other alcoholic drinks, are perhaps the most common causes.

In a large proportion of cases dyspepsia will be found to be a cause as well as a result of uric acid diathesis. It has been a very frequent cause in the experience of the writer. Heredity is also a causative agent not to be overlooked. Acute febrile diseases tend to develop the uric acid diathesis by raising the acidity of the blood, making the uric acid insoluble and favoring its deposit in the tissues and organs of the body. Disease of the kidneys may be a cause as a direct result. Torpor and inactivity of the liver and intestines, with constipation, are very important etiological factors. Disease of the skin, heart or lungs are often causative agents. Climate has an important influence on the retention of uric acid; especially is this true in cold and wet weather, when the functions of the skin and respiratory mucous membrane are more or less disturbed.

Pathology.—In the present imperfect state of our knowledge, it is impossible to clearly define the pathology of the uric acid diathesis. We know that certain symptoms arise in connection with defective food or tissue metabolism, particularly of the nitrogenous elements. Deficient oxidation is probably the most essential factor in the process, with the result of the formation of less readily soluble and less readily eliminated products of retrograde metamorphosis. This faulty metabolism, if long continued, may lead to acute inflammations, deposits in the joints, and arterial and renal diseases. This disturbed metabolism in a large proportion of the cases produces high arterial tension, as a direct result of the interference of the capillary circulation and ultimately to sclerotic degeneration in various tissues.

The treatment should be both preventive and curative.

We have seen that the uric acid is met with in excess in the body and blood from three causes: (1) That it has been introduced in excess by the consumption of articles of diet which contain it or other members of the xanthin group, such as meats, eggs, fish, tea, coffee, cocoa, or guarana. (2) Because so much nitrogen is taken that the uric acid formed out of it is owing to high acidity which the salts and other products of nitrogenous metabolism produced, not all excreted and is gradually stored in the body. (3) The high acidity resulting from the the excessive consumption of animal food prevents the excretion of uric acid introduced with this food, as well as that

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which is formed out of its nitrogen along with a certain amount of urea. We should cut off all food which contains much uric acid and which is not absolutely necessary, and allow so much of the less harmful kinds as is required for nutrition. Meats, if possible, should be cut off entirely; coffee, tea, acids, wines, malt liquors and alcoholic drinks of every kind should be strictly forbidden.

The diet should consist principally of vegetables, milk, fruits and bread. Occasionally eggs and fish may be taken. The patient should eat at regular intervals, eat slowly and only so much as is absolutely necessary to keep up the nutrition of the body. Each individual case must be considered separately and carefully. Water should be taken freely. The writer has used the lithia waters in the uric acid diathesis, but has not seen the good results reported by others. Hot water taken before meals will be found beneficial. Daily bath should be taken. If the patient is debilitated they should be warm; if he is robust a morning cold bath with friction after it. An open air life with plenty of exercise, regular hours and habits are very important elements in counteracting the disease or condition. As regards drugs, sodium salicylate will be found beneficial in many cases, but its effects should be carefully watched, especially if there is cardiac or renal insufficiency. The bicarbonate and citrate of potassium have been very satisfactory agents in my hands in the treatment of this condition. I have also used with much benefit the effervescent citrate of lithia tablets. Piperazine in my experience has not been attended with the success reported by some other observers.

The iodide of potassium will be found useful in many cases. The preparations of guaiacum, quinine and the bitter tonics in combination with alkalies are of unquestionable benefit. The use of opium and coal tar preparations should be avoided. Purgatives and laxatives should be used as indicated. Phosphate of soda is an excellent purgative in this condition; it acts directly on the liver and helps to keep the blood alkaline. It may be given in teaspoonful doses or more three times a day. The bichloride of mercury, on account of its stimulating effects on the liver, is an excellent remedy. It is best given three times a day in small doses with a good bitter tonic.—*The Virginia Med. Semi-Monthly.*

WE trust you were all duly thankful.

Conditions Which May Simulate Organic Obstruction of the Large Intestine.

BY THOMAS H. MANLEY, M. D., NEW YORK.

Abstract of Essay read before the Surgical Section at the Meeting of the Mississippi Valley Medical Association, held at St. Paul, Minn., September 17, 1896.

The large intestine in any part, from the ileo-cæcal junction to the anal outlet, is liable to obstruction in varying degrees in its various segments.

As the anatomical distinction between the large intestine and the small is very wide, and as they are altogether dissimilar in function, it necessarily follows that both the etiology and symptoms of stenosis in either one should bear but little analogy to the other.

The small intestine is rich in smooth muscle and adenoid elements, is richly supplied with non-medulated nerves from the sympathetic system, has a long, free mesentery, is the center of active peristaltic movements, and exclusive of the duodenum, is quite entirely within the peritoneal cavity. It is the center of active, vital, chemico-physical changes in digestion.

The large intestine, on the contrary, is little more than a sewer-vent to receive, lodge and discharge the residual detritus of digestion. It contains but little muscular fiber in its sacculated cylinder, but is strongly braced by dense bands of fibrous tissue. The inner coat is made up chiefly of mucous glands, and the lumen of the bowel is of quite constant dimensions. This part of the alimentary canal is more or less fixed, permitting of but a moderate range of motion. The large intestine is but imperfectly invested by peritoneum, and at the rectum is almost entirely outside this membrane.

The position, shape and arrangement of the colon favor many pathological processes in the human being.

In function this elongated, arched and flexed coil serves a similar purpose to the bladder, as a pouch for excrement; vastly more complicated, it would seem, than its functions require.

The healthy mucous membrane of the bladder is proof against the absorption of non-corrosive poisons in solutions, while the rectal end of the large intestine absorbs almost any substance in a soluble state. And in cases of impaction or fæcal stasis, we have reason to believe that the large intestine resorbs many of the most lethal elements of its own contents.

Probably there is no organ in the body more subject to a typical deviation in development and

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in its relations than the colon. This is particularly manifest to the surgeon in operations on its cæcal end, and has been lately dwelt on in an able essay, by Dr. Theodore A. McGraw, of Detroit, on the surgery of the large intestine.

In the human subject the alvine current must ascend against gravity, make various detours as it clears the colic valve, course around three sharp angles, and pass the double flexures in the sigmoid before it is discharged into the rectum, preliminary to expulsion.

The segments of the colon liable to displacement and inclusion in hernia are:

1. The *cæcum* and *appendix*.
2. The *transverse colon* in *umbilical hernia*.
3. The *sigmoid flexure*.

The third is the most rare, although a case of it came under my notice this summer ('96) in a young gentleman brought to me by Dr. J. B. Cowan, of Radford, Va., who had been treated for stricture of the rectum. There was found no rectal stricture, but a partial escape of the sigmoid, which when caught in the inguinal rings would give rise to symptoms of rectal obstruction. I have met with the cæcum in operations for strangulated and in reducible inguinal hernia. In large umbilical hernia the transverse colon is frequently engaged.

In my own experience in this type of extrusions, either in inflamed, incarcerated or in strangulated hernia, the symptoms of collapse do not set in as early as when the small intestine is involved.

Sex and Physiological Condition.—Sex and physiological conditions play an important *role* in the etiology of pathologic conditions in the rectal end of the large intestine. A careful study of the radical difference of the anatomy and the functions of the organs near the pelvic outlet will readily convince one of this.

The genital organs here come into play as a permanent factor. In the male of advanced years a hypertrophied prostate may press steadily on the rectal ampulla, provoking an irritation, and in aggravated cases acting as a barrier to defecation, thus inducing symptoms of obstruction.

It is in the female, however, that the influence of genital ectopia, or fæcal impaction of the rectum is most pronounced. Here the pelvic genitalia and the crippled rectum reciprocally act on each other. A retroverted, enlarged uterus may so encroach on the anterior wall of the rectum as to quite close its lumen, excite a proctitis and tenesmus, or even give rise to such a condition as to lead the unwary to suspect a neoplasm of the rectum.

This actually occurred in two cases which have come under my notice, in both of which the uterine body crowding against the rectum, led to the opinion that a tumor had formed in its walls. In both, pessaries relieved all the symptoms. At the present time an elderly lady who is under my care with an incurable procidentia, suffers all her distress from rectal symptoms. And, *per contra*, how many women there are tentatively treated for various uterine and vesical disorders, whose entire troubles depend on either cæcal, sigmoid or rectal impaction.

Clinical History.—Intestinal obstruction of various degrees occurs at any stage of life; but in the large intestine, if we exclude intussusception —a condition peculiar to early life—we rarely encounter it until old age; not until after the vital forces commence to fail and degenerative changes begin, when the teeth have fallen out and the glands diminished in activity.

Mechanical obstruction in the large bowel depends on influences of two orders, the intrinsic or organic, and the extrinsic or indirect; the latter only to be briefly considered here. This may be complete or incomplete. It develops in consequence of (*a*) *inertia* or *atony* of the intestine with fæcal impaction; (*b*) ectopia of adjacent organs, or morbid growths of structure, second in order of frequency; (*c*) hernia of various types, the rarest, *most acute* and dangerous.

The immediate danger to life from impediment in the large intestine, except in hernia, is not great; in the chronic form the constitution is undermined by conditions consecutive to colic stasis.

Morbid Anatomy.—In the rectum we find the most palpable evidence of pathological changes; first in the degenerative vascular changes so generally met here, besides in the child-bearing woman; and, secondly, in the damage to the levator ani, a muscle which serves a complex purpose in her sex. At the anal verge. and just above it, we may find a dense hypertrophy of the submucous tissues, encircling the entire bowel. This may or may not prolapse in defecating; but at all events it often serves as an impediment to evacuation or a complete clearing of the rectum. In a recent case operated on by me, it produced so many symptoms of obstruction that a stricture was suspected by the physician who sent the case to me.

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In women, after the menopose, the pelvic organs undergo atrophic changes, which seem to extend to the rectal structures; for in many, late in life, moderate impaction of the rectum is very general; nor is it by any means uncommon in elderly men who neglect their regular evacuations or are prone to degenerative lesions of the spinal cord; such, especially, as involve the trophic or sensory nerves.

Hernial protrusion often comes late in life, or but a small, unnoticed rupture has existed, to give trouble later.

A young man came under my care some years ago in a sad state from hernial gangrene. He had a swelling in the right groin for several months before, but did nothing for it until it finally commenced to give him pain. Now, he went the rounds of the dispensaries, and it was repeatedly poulticed. After a time it broke through the skin; the displaced cæcum had ruptured, and was in a gangrenous state, and had allowed the feces to escape through the new opening. An error in diagnosis had been committed and a life lost. As some individuals go for weeks without a full motion from the bowels, they may deceive the physicians by not mentioning this when they come under his care. Massive tumors, the pregnant uterus or displaced kidney may all interfere with full colic action and lead to symptoms of obstruction.

Symptomatology and Diagnosis.—The symptoms which attend rectal and colic obstruction are local and general.

In partial or complete obstruction of the large intestine, the dominant symptoms are local. One patient is costive; he thinks he has "piles" or vesical disease, from pressure on the bladder; as occurred in one of my own—a gentleman, from whom I removed a massive rectal entrolith as large as a fœtal head, which had to be split and removed in sections. It was most remarkable that the patient was entirely unconscious of its presence, though he had severe troublesome vesical symptoms. For fourteen years his bowels moved only when his valet gave him enemata. He assured me that he was confident the petrified mass was lodged there fourteen years, and in this view his son, who is a physician, concurred.

In diagnosis one of the most frequent lesions liable to be confounded with extrinsic obstruction of the large intestine is cancer. This dreadful malady works great havoc here.

According to Sutton, ninety-eight per cent. of cancers of the bowels occur in the large intestine, seventy-five per cent. in the rectum, ten per cent. in the sigmoid, four per cent. in the splenic flexure, three per cent. in the hepatic, two per cent. in the cæcum, and four per cent. non-differentiated.

We endeavor to make diagnosis in this class of cases by surface and rectal exploration. In those not too fat, much valuable information may be elicited by abdominal examinations, by percussion and posture of body. It will answer in most cases of cæcal or sigmoid impaction, alone or conjoined with bi-manual manipulation. In acute cases we should always institute a most thorough search for hernia, and not be content with inspection, but test all suspected portals of escape by tactile sense.

Rectal examination is the most positive and valuable in its results, as a diagnostic resource; in all suspected cases this should be insisted on. One patient may insist that his bowels are "loose," or that he completely evacuates them, when neither is the case. Sensation is blunted, and he unconsciously deceives himself.

This examination is of importance in women, on whom it may usually be made most complete. It entails, practically, no exposure, and, with few exceptions, is quite painless.

The type of alvine obstruction here considered, including that induced by hernia, should never of itself seriously threaten life. It only needs to be definitely recognized to be safely and permanently relieved.—*The International Journal of Surgery.*

Should We Modify or Change Our Rule with Regard to Operations Upon Cases of Empyema?

By Clayton Parkhill, M. D., Denver, Col.

Professor of the Principles and Practice of Surgery in the Medical Department of the University of Colorado; Surgeon to St. Luke's and the Arapahoe County Hospitals; Surgeon General Colorado National Guard, etc.

Senn probably states the consensus of surgical opinion when he says: "Pulmonary tuberculosis complicated by empyema, constitutes a contra-indication to surgical operation, as the patient is already affected by a disease which almost necessarily leads to a fatal issue, and a surgical operation would only hasten this termination."

While well aware that "one swallow does not make a summer" and that one case does not furnish a law of practice, yet the history of the patient which I am about to relate shows at least that there are exceptions to the rule as laid down by Senn.

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E. I. R., white, born in Connecticut in 1868, of healthy parents, had good health until 1885, when he contracted whooping cough, which lasted all of one summer. His health gradually failed, and in the autumn of that year he had a severe attack of typhoid fever, lasting about four weeks. After this his strength did not fully return and in less than a year he developed malaria, which lasted four or five years. In 1891 he contracted several severe colds, and an examination of the sputum disclosed the fact that it contained the bacillus of tuberculosis. In September of that year he had an attack of pleurisy on the left side, which was complicated by hydro-thorax. In October the chest was aspirated and three pints of serum removed. In a few days it had refilled and the aspiration was repeated and more of the fluid withdrawn. After this his strength gradually improved until December, when he entered the Massachusetts General Hospital. He was again aspirated. He was then advised to come to Colorado. He stopped on the way at Abeline, Kansas, for some months. While there he had the sputum examined and it was pronounced free from the bacilli.

On April 15, 1893, he was referred to me by Drs. S. A. Fisk and Henry Sewall. Dr. Sewall reported at that time that "there were signs of effusion nearly filling the left pleural cavity. Aspiration with a hypodermic needle showed the fluid to be pus. There was some percussion dullness at the right apex and ausculation revealed some respiratory crackling in that region. Some weeks later an examination of the sputum revealed the presence of the tubercular bacilli. An examination of the patient's chest, made ten months after the first, still discloses signs of slight tubercular infiltration at the right apex."

This report does not mention the fact that the left lung was seriously involved in the tubercular process and that it was compressed to such an extent by the effusion that almost no air entered it. I found the patient excessively weak and emaciated, with dropsical extremities. I considered his condition very bad for operation and confess that it was with the utmost reluctance that I was persuaded to operate upon him. On April 16, I excised a portion of the eighth rib and evacuated a very large quantity of pus. He slowly improved after this operation until August 12, when he left the hospital. On November 2, he was readmitted. While better than when operated upon, yet his condition was still far from satisfactory. On the following day I did the Estlander operation, excising an ellipse from the chest wall comprising six ribs, beginning at the third and having a greatest width of six inches. The pleura was found greatly thickened and was excised to an extent corresponding with the bony opening, together with all the intercostal structures. The lung was found almost completely collapsed and bound down by the results of the old pleuritic inflammation. After this operation he continued to improve, the chest wall collapsing in a fairly satisfactory way and the lung expanding to a slight extent. I again examined him in May, 1894, and found that there was still quite a large cavity between the lung and the chest wall. I again operated upon him, removing a section of the third rib, together with an additional portion of about two inches of each one which had been cut before. This made the opening involve seven ribs. After this he improved rapidly in flesh and strength and in a few weeks was able to go about on crutches.

In the summer of 1895 he spent three months in the mountains on a camping trip and gained decidedly during this time. December 29, 1895, he was admitted into the Arapahoe County Hospital, and on examination I found that there was still a cavity of some size remaining. Again I operated upon him, removing about one inch more of the ribs and a corresponding portion of the pleura. He did well following this operation. This, however, did not completely obliterate the cavity, and on the 22d of May, 1896, I attempted to cover the walls of this opening by means of skin grafting. The posterior half of it I covered by the Wolff method, while the anterior half I covered by the Thirsch method. His recovery was perfect so far as the latter method was concerned, but the sutures confining the Wolff flap in place gave away, leaving the posterior half of the cavity exposed. On July 3, 1896, I repeated the operation, covering the posterior portion of the cavity with the Thirsch grafts. This is the first time, so far as I know, in which the pleura has been skin grafted.

There is one other point of interest in connection with the case,—he developed a well marked amblyopia while the cavity was being packed with iodoform gauze. The rarity of this condition makes it worthy of note.

He has now practically completely recovered and reports that he can walk a mile as rapidly as the average man and without the slightest exer-

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tion. He has almost regained his normal weight and the lung symptoms have nearly all disappeared.

This case is instructive in that it teaches us that some of our patients who seem hopelessly ill may be cured, and that a man is not necessarily doomed who has tuberculosis of one lung complicated by empyema, and that even those who have decided tubercular lesions of both lungs may get well.—*American Journal of Surgery and Gynæcology.*

Cerebral Meningitis in Children Following the Phlogistic Diseases.

By Frank Parsons Norbury, M. D., Jacksonville, Ill.

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Clinical medicine has been benefited equally as much by the promulgation of the truths of Listerism as has surgery.

In surgery the evidences of the successful adherence to the principles of antisepsis and asepsis are more clearly defined than in medicine. But if we will carefully note the progress made in the practice of internal medicine since the study of micro-organisms began, especially along the lines of preventive medicine and the treatment of the phlogistic diseases, we can see wherein clinical medicine has been benefited.

Sir Joseph Lister, in his masterly presidential address before the British Medical Association (British Medical Journal, Sept. 19, 1896), has given us a brief sketch of the evolution of Listerism, and influence which they have had in modern medicine and surgery.

He says "the striking results of the germ theory to surgery acted as a powerful stimulus to the investigation of the nature of micro-organisms concerned." As a result, "a host of earnest workers in different countries have cultivated the new science of bacteriology, and, while opening up a wide, fresh domain of biology, have demonstrated in so many cases the casual relation between special micro-organisms and special diseases, not only in wounds, but in the system generally, as to afford ample confirmation of the induction which has been made by Pasteur that all infective disorders are of microbic origin."

We no longer doubt that the great class of phlogistic diseases are of parasitic origin, and while all micro-organisms, the specific cause of these special diseases, have not been isolated, yet the progress in this line is very gratifying, and encourages us to believe in future results.

In the clinical study of inflammatory disease of the membrane of the brain, it has been demonstrated that they are parasitic in origin, the tubercle bacillus being the most frequent cause of such disease. While it is taught that the tubercule bacillus plays such an important role, yet we believe that with the advent of more thorough knowledge of the biology of micro-organisms we will find that other specific bacilli are found causing sad havoc, especially in children. That all inflammatory disease of the membranes is followed by suppuration, but not necessarily putrefaction, is evidence of infective nature of the disease. Ogston has shown that suppuration can exist without putrefaction, and that matter from suppuration is full of micro-organisms (the cause of the inflammation), which, while it may in the majority of cases be due to the tubercule bacillus, nevertheless shows from more than mere coincidence that other bacilli are more frequently concerned than is ordinarily admitted. Specific diseases like erysipelas, scarlatina, measles, influenza, pneumonia, pertussis and syphilis may, and do, cause meningitis. Again, the extension from suppurative disease of the middle ear, or eye, or necrosis of the bones of the skull, may cause it.

It has been taught that rheumatism is a factor in the etiology of meningitis. We hardly believe this to be a fact, inasmuch as so-called cerebral rheumatism is not characterized by meningitis. (This has been proven by Da Costa.) Syphilis, on the contrary, from my own observation, has been observed to be the cause of meningitis in children as well as in adults. Moxon and Fagge have made similar observations.

During the past year I have had several cases of meningitis distinctly non-tubercular in origin, but all of the phlogistic group of diseases, of which I will report two, inasmuch as they give clinical pictures of this disease.

Case I. Boy, age 5. In June, 1895, was noticed to be growing petulent, easily disturbed, and destructive when angry. His mental condition became such as to give his parents great concern, as there was a progressive decline of mentality. He became filthy, and hard to control. A physician was consulted, who considered his condition due to worms; he did not improve under treatment, but became gradually worse, and in September had convulsions, followed by delirium, lasting for ten days. Another physician

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was consulted, who, finding an adherent prepuce, recommended circumcision, and assured the anxious parents of recovery. He was circumcised, but no effect was noticed. He had now become apathetic, inclined to be destructive, would bite everything he could get to his mouth; as a result his clothing was destroyed, also carpet, rugs, playthings, and even fence pickets were chewed vigorously by him. I saw him in October, 1895; nocticed on inspection retraction of the head, slight strabismus, drooling at the mouth, Hutchinson teeth, some disturbance of co-ordination. As his mental apathy was so pronounced, but little reliable information could be elicited from him. His mother said he would pound his head in right fronto-parietal region, especially at night. He would vomit frequently and never appear to be greatly exhausted after the effort. The child was of unusual development for one of his age. No evidence of tuberculosis. No history of it in parents. No middle ear disease. He had not been exposed to any infectious disease. No suppurating sores anywhere on his body. No cardiac diseases. Suspecting syphilis as a factor, inquiry was made of the parents, but it was denied.

A diagnosis of simple meningitis (chronic) was made, and syphilis was supposed to be the etiological factor. My diagnosis was founded on the history of cerebral symptoms, headache, aphasia, delirium, convulsions, apathetic mental condition, tendency to be destructive and filthy, the vomiting without apparent cause, with no exhaustion following; the pulse and the temperature, which I should have mentioned, ranged about 101°.

Treatment was anti-syphilitic. Iodide of potassium, in increasing doses, pushed to tolerance, then with an intermission of a week, during which time tonics were used, followed again by iodide of potassium.

The results were very pleasing, leading us to confirm our supposition that syphilis was the cause of the disease. I am aware that iodide of potassium has been recommended in meningitis where the history of syphilis is wanting, but my experience has been that in cases not syphilitic it is not reliable. The boy made considerable progress during the first few months, regained his former alertness, became interested in home surroundings, games, etc., and now is as far advanced mentally and physically as the average child of four years of age. It will thus be noticed that his mental condition has not yet reached its normal limit, but under continuous treatment the other symptoms have disappeared.

CASE II. Acute simple meningitis. Girl, age 5. Taken suddenly ill at midnight. I saw the child within an hour; in the meantime free vomiting had occurred, and when I arrived delirium, muscular twitching and high fever were prominent symptoms. The temperature was 104°, pulse tense, somewhat irregular, but not increased over normal.

I did not at this visit make a diagnosis, but said to the parents that the cerebral symptoms were the most prominent and that I suspected meningitis. Treatment was directed along this line. Quiet enforced, ice applied to the head and calomel in broken doses to relieve the bowels and quiet the vomiting. I saw the case again in about six hours and found hyperasthesia prominent, delirium pronounced, also restlessness, head retracted and vasomotor symptoms, vomiting continued at irregular intervals. I felt safe in making the diagnosis of acute simple meningitis.

The case differed but little from the ordinary run of such cases; the acute symptoms continued for about two weeks, but convalescence was prolonged.

The treatment was vigorous use of cold to the head, keeping the bowels open and maintaining nutrition. Fever was best controlled by cold bathing, which was repeated every two or three hours when temperature was above 102.5°. The special interest in this case is its etiology. A baby sister had whooping cough, and was in the midst of the throes of this disease when this case was stricken with meningitis. The cause of the meningitis is believed to be infection from whooping cough, inasmuch as this was the only probable cause ascertainable. Believing, as I do, that meningitis not due to purulent infection from adjacent bone necrosis, or septic conditions elsewhere, is the result of infection from some one of the phlogistic diseases, and on this ground I feel that whooping cough was the etiological factor in this case. It is not unusual to note cerebral disease following whooping cough, for among the feeble-minded, the deaf and dumb, there are many children who owe their affliction to this affection. It was my pleasure to be resident physician in the Pennsylvania Institution for the Feeble-Minded when Dr. Wm. Osler was preparing his masterly book on the "Cerebal Palsies of Childhood," and many of his cases (the Elwyn

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group) mentioned in that book were inmates of this institution. I had the opportunity to study under Osler's suggestions the pathological conditions resulting from infection. He mentions numerous cases showing the disastrous cerebral and spinal results following the infectious diseases. He quotes Gaudard as saying that whooping cough is a factor, also Wallenburg and Marie.

There are other forms of meningitis occurring in children, traumatic meningitis being a prominent form. I have had several such cases, one last year following a fall on the ice.

CASE III. A boy, aged 9. The symptoms were obscure, and a diagnosis of typhoid fever had been made before I saw him. The fall was not considered by any one, except the mother, as a factor in the case. She insisted that his illness was due to it. I made a careful observation of the localizing symptoms, which were retracted head, strabismus, local convulsive symptoms, disturbed vision, and partial hemiplegia (left). Temperature and pulse were not characteristic of typhoid. However, to insure no possible mistake, careful observations of the temperature were made for a week, and the patient's treatment directed so as to benefit him whatever the disease. He was placed in bed and cold water coil used on his head, with sponging whenever temperature ranged above 102.5°, his bowels were kept open by the use of calomel and salines. No diarrhœa was present, no rose-colored spots, no tympanites, no characteristic typhoid temperature nor pulse, but on the contrary the "cerebral pulse," slow, tense and irregular, was present, and the temperature was erratic, as I have frequently observed in cerebral inflammation. After three months the boy seemed to have recovered. The fever ceased, but hemiplegia exists, gait decidedly hemiplegic, toes flexed, no special atrophy, hand subject to choreform movements, field of vision reduced, but what remains seems to be fairly normal. Intelligence good. This was a case of simple traumatic meningitis, not due to phlogistic disease.

I have had other interesting cases under observation both in my own practice and as consultant, but will not enter into a recital of the points of interest. Suffice it to say that tuberculosis should not be looked upon as the cause of so much of cerebral meningitis, especially found in the rural districts. While tuberculosis is the most prolific cause of cerebral meningitis, yet we should be sure we have a tuberculous case before rendering a decision. As this disease is one of the most peculiar in its countless manifestations, and is full of interest from start to finish, it should be studied carefully and thoroughly, and hope should not be lost in the fight, for in no one disease will eternal vigilance reap greater rewards than in following closely the lines of rational treatment. We should be careful to isolate all other children in a family when any acute infectious disease invades the home. Even whooping cough, looked upon so lightly by the laity, is in my judgment one of the most likely to produce cerebral and spinal inflammatory disease, and it is criminal negligence for parents to carelessly care for children sick with this disease, as is so commonly witnessed everywhere. We have learned, since bacteriology has become a reliable science, that the infectious diseases are deadly enemies and not innocent disturbers of childhood's happy hours, and it is our duty as physicians to warn parents about exposure to these dread diseases. Boards of health should see to it that whooping cough and measles should be quarantined just the same as are scarlet fever and small-pox. While the latter are more severe in their acute attacks, the former just as positively insidiously invades the citadels of the mind, destroys its powers, prevents its development and leaves behind paralytics and hopeless invalids.—*St. Louis Medical Era.*

Susceptibility and Immunity to Surgical Infection.

BY JOSEPH RANSOHOFF, M. D., F. R. C. S., CINCINNATI, O.

Professor of Anatomy and Clinical Surgery, Medical College of Ohio.

Abstract of a Paper Read Before the American Surgical Association in May, 1896.

Experimental research has developed very important data in connection with susceptibility and immunity to many of the acute general infections in which a local lesion may or may not play an important part; but not on so wide a plane upon the infections that are generally known as surgical. With the exception of tetanus and hydrophobia, in both of which the local invasion is trifling in comparison with its general results, no very satisfactory results have been developed rom bacteriological examinations and expermental inoculations. To hydrophobia and tetanus animals have been made immune. In these acute infections only, of those which interest the surgeon particularly, is there any analogy, there-

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fore, to the immunity begotten by experiments or the natural invasion of the germs of disease. That this immunity is in some way connected with chemical changes in the blood serum is probably true, and, as is well known, has been made the basis of all modern serum therapy.

The surgical infections are strongly contrasted with those general diseases, a single attack of which begets immunity, in that immunity never results from a single invasion. On the contrary, the very presence of the milder, or even the more virulent, pus-formers and of the streptococcus of erysipelas has a distinct tendency to produce their local repullulation, until, through over-growth, the soil becomes barren, and in this manner the local immunity is established. But this immunity is relatively short; this is sufficiently evidenced by the frequency with which the same surgical infections recur in a given territory. It may be said that the previous existence of a surgical infection, for reasons which are not yet clear, render the individual more susceptible to the infection than one not previously so affected. The breaking up of an anchylosed knee, an osteotomy too soon performed after the apparent cure of tubercular disease of the joint, a plastic operation made at a date apparently safely removed from a destructive sappurative process, have all been followed by disastrous results consequent on surgical infection.

It has not yet been determined how long pathogenic organisms or their spores may remain latent in the tissues once affected, to develop anew in consequence of a surgical intervention which disturbs them in their apparent quiescence.

The immediate results of surgical infections are, fortunately, for the most part limited to the site of invasion. Although the general symptoms of infection may be concurrent, they are toxic in character, and only exceptionally the result of the invasion of the distributing medium of the body by the bacteria themselves. When such an invasion does take place, it is limited in extent, as is evidenced by the paucity of visceral metastases. Such flooding of the blood as is seen in anthrax experimentally produced is never seen in the surgical infection. Nevertheless, in cases of malignant septicæmia, pure cultures of the streptococcus have been obtained from the heart's blood, the kidney and the spleen. In these grave cases of septicæmia the local lesion is frequently very slight. The question which presents itself for solution is this: How can we account for the varying intensity of action of pathogenic organisms in different individuals, an intensity which finds one individual non-susceptible, a second capable of keeping it strictly localized, a third permitting a limited colonization at parts remote from the invasion, and a fourth opening wide every avenue for dissemination and growth? Unfortunately the answer to this question, even by skilled bacteriologists, would be largely hypothetical. It is an accepted axiom, I believe, that all living tissues resist the growth of bacteria in general to a degree surmountable to only a few of the latter, which are, therefore, pathogenic. To the limit of this power of resistance the body is not susceptible to infection; it is protected, and may be said to be immune. The living, healthy tissues beget immunity by protection, whether we call to aid the no longer tenable doctrine of phagocytosis, or the more recent one of the presence in living tissues of chemical compounds (toxines), either pre-formed or developed after bacterial invasion, but always detrimental to bacterial growth. Whatever the explanation, healthy living tissues are little susceptible to infection. In pre-antiseptic days, wounds of the scalp, of the face, and clean-cut wounds of the body often healed without infection. Per contra, in these days of aseptic surgery, we still dread wounds of our own making that have, of necessity, been left ragged, with the tissues reduced in vitality. We fear the blood-clot because of its inability to resist bacterial growth when invasion has once occurred. It follows, therefore, that whatever reduces the vitality of the tissues increases the susceptibility to surgical infection. Experimental research has shown that starvation, great fatigue experimentally induced, and artificially induced anæmias, are capable of producing susceptibility to infection in animals which, otherwise, are immune. Prolonged anesthesia, shock, and the changes incident to Bright's disease and diabetes might be cited as promulgating bacterial growth by reducing the resisting power of the tissues, and, to a corresponding degree, increasing their susceptibility to septic invasion.

Next in importance to vitality in determining susceptibility is what has aptly been called the dosage of the infecting material, by which is meant the number of bacteria introduced, their virulence as shown by their toxine-producing capabilities, or their localizing effects through chemotatic product. It is through the former that the grave results of general sepsis are witnessed; through the latter, the benign effects of localized

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infection. Furthermore, it is to be borne in mind that, in the matter of dosage, the infection introduced is not always a pure one, the infection being a mixed infection. As yet, no practical deductions have been drawn from the experiments made on infections with mixed cultures, although it is not improbable that the laboratory work being done in this direction will bear fruit. In speaking of the method of the sources of surgical infection one must not overlook the fact that there are avenues other than that of the wound. Suppuration of simple fractures, of hematomas through an unbroken skin, of the cerebrum through an intact scalp and skull, tubercular invasion of the site of a sprain, and osteomyelitis from an intestinal infection, are factors which, though remote, nevertheless are in given cases to be kept in mind when the more common causes of infection have been excluded. Auto-infection, for reasons that are patent, are the ones most difficult to successfully combat.

The extent to which we are in position to influence this entero-sepsis affects the surgeon less than it does the general practitioner. It is exceedingly doubtful whether by any safe medication known the intestinal canal can be made aseptic. It is almost impossible, even by direct application, to sterilize the ends of this canal, which are subject to direct medication. How much less effectual, therefore, must all treatment be of the intervening twenty feet or more of the intestinal tube? Whereas, recent writers have frequently called attention to the value of intestinal asepsis, Dr. Osler, than whom there is no better authority, in a recent address ridiculed the idea of its feasibility. Nevertheless, no major operation should be undertaken, if time permits, without careful attention to this most important of the emunctories.

The position of a trauma or operation very signally influences the susceptibility to surgical infection. Wounds of the lower extremity, it has been well known, are more liable to infection than those of the upper extremity. The physiological hindrance to the return circulation, normal in this part, probably accounts therefor. Certain it is, as has already been indicated, that parts freely supplied with arterial blood, and from which by many channels the return circulation is insured, do not easily become the sites of the hypostatic hyperemias, which are often the immediate precursors of surgical infections. Again, surgical infection is made easier when a trauma or a wound is in close relation to the excretory orifices. While normal urine is aseptic, wounds about the perineum are readily infected through proximity to the anal orifice. For the same reason, surgical intervention about the anus is still often followed by infection, since, from the very nature of things, only for a short time can the lower portion of the intestinal tract be retained sterile. In this connection, too, the importance of the bacterium coli in relation to operations upon the genito-urinary apparatus, as recently demonstrated by experiments, might be mentioned as of great significance.

A very important point of view, to my mind, in consideration of the question of susceptibility and immunity to surgical infection, is that of operative infection. With the clinical features hereof our forefathers were well acquainted. Their dread of opening cold abscesses and of making major operations during the height of a septic fever was based on the dire results of experience. With our more exact knowledge of the pathology of surgical fevers, we must ascribe the results then obtained in the conditions named to operative surgical infection. With a proper comprehension of the dangers of such infection they may be largely avoided, although without question, to my mind, precipitate operations for the cure of tubercular disease, the indiscriminate use of the curette, are not infrequently the source of a very grave and at times fatal operative infection. By always bearing this point in mind the surgeon will go far in the practical application of the principle of *non nocere*.—*Amer. Jour. of Surgery and Gynæcology.*

Doctors of Other Days.

BY JAMES ROBIE WOOD, M. D., NEW YORK.

Upon my office wall there hangs an old parchment—the medical diploma conferred upon my father by Harvard College in 1829.

A glance over the distinguished names written thereon awakens many strange memories. There is hardly one among those whose signatures adorn that old diploma who has not made a marked impression upon this century, either for good or evil.

He who leads the list has left a pleasant sunshine behind him; yet but very few among the millions who have felt its genial warmth ever knew from whence that sunshine came. Next below is written the name of one who cheerfully sacrificed the rest of an easy grave in order to

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overcome a stupid prejudice which had for ages retarded the progress of medicine and surgery. The third whose name is transcribed there was the Professor of Legal Medicine—Walter Channing—of whom I know but little. The fourth was a sterling representative of the medical profession—one well fitted to guide young physicians; for he, more earnestly than any other teacher of his day, warned his students against the folly and danger of being mere prescribers of drugs. The last person who signed that old parchment made two continents shudder with horror a half century ago. Often as I have looked upon his signature, memory has caused the ghostly presence of his crime to appear.

One other name, the most important in giving the sanction of Harvard College to the young aspirant to go forth upon his chosen career, need be only mentioned, as most Americans know of him and his father; both bore the same baptismal name—Josiah.

Josiah Quincy had just been promoted to the Presidency of Harvard College in that year, 1829, so his signature upon this old diploma was among the first ever written by him as President of that institution.

Returning once more to the faculty of the medical branch of the college let me first consider that dear old man—Dr. James Jackson, Professor of Theory and Practice, whose name heads the list. I well remember him in extreme age, one winter's day, warmly clad, quietly plodding along the streets of Boston; a fur cap covered his fine old brow and thick woolen socks were drawn over the bottoms of his trousers to encourage the lagging blood to warm those feet which had spent so many useful years in carrying that noble physician to many thousand bedsides, where he always left a benediction of knowledge, kindness and zeal. His modesty forbade bitter personality in the contest of his own and Morton's friends, who were warmly urging the priority of their respective candidates in the use of ether. When it was proposed to erect a monument to the one who first used the great anæsthetic in medicine and surgery, a wag suggested that the difficulty be settled by inscribing on the marble—"To Either."

Another mighty offering from science to mankind was made through this devoted physician without his demanding the slightest recognition or a share of the honors which were freely given to others. While traveling together on shipboard Jackson and Morse met. Morse told Jackson of his labors and failures while attempting to convey messages by electricity. Jackson related his trials in the same line of experiments and corrected faults in Morse's system. Morse profited by these instructions, which soon enabled him to perfect the telegraph. Jackson was as indifferent to glory as it was possible for flesh and blood to be. This modest, true and diligent man loved science for its own sake and for its power of rendering benefits to humanity; and he was ever happy amid its most mysterious and intricate problems. His heart freely gave rich treasures from out of the vast storehouse of his wide and generous mind.

Next to Jackson's name appears that of John C. Warren, who was Boston's greatest surgeon in those days. On account of the constant difficulty of procuring the dead for dissection, through a narrow popular prejudice, he commanded that upon his death his own body should be dissected and his bones hung in the college museum for the benefit of science, and to overcome public aversion to this most necessary means of instruction. His directions were strictly followed, and there the honored skeleton of that most distinguished surgeon has swung for many years. The eyeless sockets beneath that brow seem to demand that science should unite her prayers with those of Jewish and Christian churches for the eternal repose of that noble soul which had so generously denied even the rest of the grave to its earthly tenement, so as to enable man to acquire a better knowledge of the human body in order to lessen the ills of his fellows.

Dr. Warren was a proud but just man. This was well illustrated by the following incident:

During a clinic he called a number of students to the operating table to examine a peculiarity in the case. All solemnly gazed through the august professor's eyes and reverently saw what he thought he saw, until the last one approached the case. He was an earnest worker, but generally very timid. It was simply impossible for this quiet student to see what the impatient teacher described. "But," said the young man, "I do see the evidence of another trouble which may account for the condition;" whereupon he explained his views. This dreadful thoughtlessness frightened the student himself, but his presumptuous suggestion caused a more thorough examination of the patient to be made, and to his chagrin the doctor was obliged to humble his pride for the nonce and acknowledge his error. Until after

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this student's graduation Warren would not notice or speak to the unfortunate transgressor; but when appointments were made for the hospital, the professor himself, whose dignity and pride had been so sorely offended, saw to it that the young man should have the best position within his gift.

Lower down in the list is written the name of Jacob Bigelow, who was a teacher well fitted to prepare young men for their medical career. In his efforts to guide his students aright he never wearied in warning them to avoid the careless or needless use and abuse of medicines. He was fond of beginning his course of lectures on materia medica with the following humorous remarks:

"Remember, young gentlemen, that man is a drug-loving and drug-taking animal, and it is your business as physicians to keep them from him?"

A later professor in the same college, one whose intense wit has made the whole world smile with pleasure, Oliver Wendell Holmes, supplemented Bigelow's words with the sparkling satire:

"If all the medicines in the world were thrown into the Atlantic Ocean, it would be *better* for mankind and *worse* for the fishes."

A sadder task awaits me now. He whose signature stands last upon that time stained medical diploma, was the Professor of Chemistry. The mention of his name to-day causes many old men and women to pity that poor man who, half a century ago, shocked millions in Europe and America by his appalling crime. The murder of Parkman by Prof. Webster, and his subsequent attempts to destroy the body by fire and chemicals, and his last, but futile, effort to hide that ghastly evidence of his deed under the waters of the Charles River, was at that time one of the most fearful records in the annals of crime. It was made especially hideous by the refined surroundings of the murderer. A cultivated man, of high character, with a charming family and excellent social circle, and, especially, his honorable position as professor in one of the most noted educational institutions of this country, all these combined advantages which ought to have been an absolute protection to him.

His life should be a warning for young professional men of slender means to beware of the dangerous habit of contracting debts. To-day there are far too many allurements for young men to purchase this or that valuable medical or art work, to be paid for on easy installments. Sixteen chances to one he could just as well do without *the so-called valuable work* thus ably presented and extolled by glib-tongued book agents. Far better is it to gather a library by selecting absolutely necessary books only and paying cash for them one by one. An unwieldy library is poor property for a young physician, especially if it be the means of keeping him in debt.

Webster owed Parkman, and being utterly unable to pay the money at once, the lender's constant duns had worried him exceedingly. The probability is that on the last visit made at the laboratory Parkman was very harsh and irritating while demanding his money. Webster, being already nearly crazed by financial straits, became for the moment frenzied; then a single blow with a heavy stick caused a death which probably was never intended. Imagine the horror of that moment when he realized what he had done. Who can have any conception of the bitter terror of those days before suspicion fell on him? The gallows must have been a welcome respite for his anguished mind. The law, in all probability, would have been more merciful to him had he instantly declared his deed and his innocence of premeditation. Unfortunately his many subsequent attempts to destroy the evidence of his guilt locked all doors of a possible good legal defense.

The plain lesson of his act teaches us to avoid the occasions of evil, above all, *debt*, as that has been the roadway to a vast multitude of crimes. —*New York Medical Times.*

Treatment of Styes.

The following treatment is suggested for this troublesome condition: Locally, as soon as the evidence of a stye is appearing, an attempt may be made to abort it by cauterizing the spot with the fine point of a galvano- or thermo-cautery. In other instances, if it cannot be aborted it is best to aid the maturation of the boil by providing warmth and moisture, and evacuating the pus as soon as this is formed. In order to render the eyelid perfectly aseptic, it is well to wash the margins of the lid with one of the following solutions, hot:—

℞. Bichloride of mercury, grs. iv
Distilled water, Oj.

Or in place of this, if it is thought the individual will be susceptible to the action of the mercury:—

℞. Bichloride of mercury, grs. ij
Distilled water, Oj.

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In other instances an ointment made as follows is of value:—

℞. Powdered calomel, grs. iv
Vaseline, " lxxx.

As a general rule, styes tend to return, owing to auto-inoculation. Care, therefore, should be taken that the edges of the lids are kept well cleansed, and if necessary a mild antiseptic wash should be used for some time after one stye has healed, in order to prevent the coming of others. Careful attention should also be paid to the condition of the alimentary canal, and it is pointed out that Bouchard believes that auto-intoxication from the alimentary canal may result in the formation of styes, through the entrance of staphylococci into the sebaceous glands of the lids. Very often in these cases the administration of naphthol is of value for this reason. The following prescription may be employed:—

℞. Benzo-naphthol, ʒj.
Ft. in capsul. xxx. One or two capsules three times a day.

Or if the patient is young, with scrofulous, arthritic, or anæmic tendencies, Fowler's solution in full doses may be administered with great advantage.—*Therapeutic Gazette.*

Teeth and Superstitions.

The parish monthly nurse of Churcham, Gloucestershire, used invariably, after public baptism, to wash out the mouth of the infant with some of the remaining sanctified water as a safeguard against toothache.

In Ayrshire, the root of the yellow iris, chopped up and chewed, is believed to be a panacea; whilst some recommend the carrying of a double hazel nut about the person.

In many districts, on the first symptoms of a child cutting its teeth, a "teething bannock," or cake was made, consisting of oatmeal, butter and cream, sometimes with the addition of a ring. This was baked in the presence of a few neighbors, and without a word being spoken by the cook. When prepared it was given to the child to play with 'till broken, after which a small piece was put into the child's mouth, and each one present carried away a small portion. It was supposed to ease the troubles of teething.

In County Wicklow it was customary to point three smoothing irons, each three times, at the painful spot, in the name of the Trinity, when, sure enough, the pain would vanish.

Aubrey says, "The Irish do use a wolf's fang tooth, set in silver, which they hold to be better than coral for assisting teething; while in Germany silver bells are used." From Pitsligo we have the following:

"If ye cut yir first teeth abeen
Ye winna dance i' yir marriage sheen."

From Germany we have the following:

When children shaled their teeth the women used to wrap salt about them and cast them into a good fire. Cramer saith that in parts of Germany some women will bid their children to take the tooth which is fallen or taken out, and go into a dark corner of the house, and cast the same into it saying: "Mouse, here I give thee a tooth of bone, but give thou me an iron one." Another custom was, as soon as a child's first tooth was seen to box his ear, and the remainder were supposed to be more easily cut. The same was supposed to happen if a child were given an egg the first time it came into the house; though some said it made them more talkative. Children were warned not to lick the sockets of their first teeth, as the new one would grow twisted.

In Denmark the elder tree was said to be good against toothache or fever. In order that a child's second teeth might come straight, it was customary in Roumania to bury the first teeth, as they fell out, at the foot of a straight oak tree. As a cure for toothache, in Roumania, the patient was made to sit beside an ant hill, masticate a piece of black bread, and spit it out over the ant hill. As the ant ate the bread the pain would cease.

Puritan New England was not exempt from superstitions. The first tooth cast by a child should be swallowed by the mother, to ensure a new growth of teeth.

Nurses recommended children to hunt for and carry double hazel nuts as preventatives. There is one story of a nurse who remonstrated strongly against throwing away the cast teeth of the children, as, if found and gnawed by an animal, the new teeth would be like those of the animal. This she illustrated by the the case of old Master Simmons, who had a large pig's tooth in his upper jaw, because his mother threw one of his into the hog trough by accident.

A necklace made of beads turned from the root of the peony was worn by children to aid dentition and prevent convulsions.

Amongst the Malagasy it was customary, when a child lost one of its first teeth from the lower jaw, to throw it over the house; if from the upper, to

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bury it under the foundations; the belief being that a new tooth would grow in the socket if this was done. This at one time was also customary in England.—*James C. Douglas, J. Brit. Dental Ass'n, 1896, xvii., 422, in the Pediatrics.*

Serum Therapy.

By John M. Langsdale, M. D.

Chairman Committee on Progress of Medicine, Kansas City, Mo.

Read before Missouri State Medical Association, Sedalia, Mo., May, 1896.

Progress is the watchword of every true man of medicine of to-day. The waning years of the 19th century mark the highest degree of progress in the history of medicine.

As the progress of medicine during the recent past may safely be said to be largely embraced in the therapeutic application of blood serum for the cure of disease, it was thought best to present for your consideration only the subject of serum therapy.

We congratulate the medical profession in that the science of medicine has kept pace with the other sciences, and that to-day more than ever before the world realizes the fact that the practice of medicine is a science.

About 1798 Jenner demonstrated that human beings could be protected against small-pox by vaccination with the lymph of the cow-pox vesicle. He met with much opposition, for it was hard for men in those days to believe that so simple a thing as vaccination with cow-pox could prevent small-pox in the human being.

In 1880 Pasteur demonstrated that the virulence of the bacteria, which causes cholera in chickens, could be so modified that it would not produce fatal results when injected, causing simply a temporary local disturbance, and that the chickens thus treated recovered from the mild attack and were thereafter immune to this disease.

The anthrax bacillus was treated as Pasteur had treated the bacillus of chicken cholera, and was injected into animals, with the result that it was found that it no longer destroyed the animals, but caused a modified attack from which they readily recovered, and after recovering they were usually found to be no longer susceptible to the severe forms of the affection.

The announcement of Prof. Koch's lymph cure for tuberculosis created a profound sensation throughout the world, and many believed that the heretofore hopeless consumptive would be restored to health and vigor as readily by the injection of Koch's lymph as the malaria victim by the use of quinine. American doctors by the hundreds obtained the lymph as soon as they could, and at once began to inject patients and see reporters; but, alas, all were doomed to disappointment—for Koch's lymph did not cure. I believe, however, that Prof. Koch deserves great credit, for I am firmly of the opinion that a cure may yet be found for tuberculosis along the lines indicated by Koch. But to Behring I believe should be given the credit for originating and elaborating the theory of blood-serum therapy.

It is claimed by Behring, Roux and others that the blood of an animal can be rendered immune against certain diseases; and that this blood, injected into another animal, will also render the latter immune against the same disease; but I shall not take up your time by entering into the details of the theory of serum-therapy, but will very briefly discuss its merits as a treatment in a few diseases. I must admit that I have been one of the few who doubted the value of this treatment, and only through the weight of statistics have I about concluded that there is *more* virtue in the serum treatment of disease than many admit, and *less* than some enthusiasts *claim*.

If the injection of antitoxin has cured tetanus, diphtheria or other diseases at all, then it deserves to be considered as an advance step in medical science, and must be praised or condemned as a remedial agent only after a fair and impartial trial.

SYPHILIS.

A. Gilbert and Fournier (*La Semaine Medicale*), of Paris, have inoculated dogs and goats with syphilitic chancres, from which serum was taken and used in the treatment of syphilis, in which experiments the results were contradictory and altogether unsatisfactory. There is hardly a doubt that syphilis is of microbic origin, yet all efforts to demonstrate the parasite have ended in failure. Lustgarten, I believe, described a bacillus to which he ascribed syphilis, but no one else has been able to demonstrate its connection with the cause of syphilis.

It is very evident that but little progress, if any, has been made in the treatment of syphilis, and nothing, I believe, is to be expected from the serum treatment in this disease, the difficulty being to discover experimental animals not immune to this terrible disease.

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TETANUS.

Tetanus is one of the most fatal diseases we have to contend with, and any form of treatment which offers hope of lessening the motality will be eagerly watched. Authentic cures have been reported as occurring in man, and the experiments in animals have proved successful.

Nicolaier, 1894, discovered the bacillus of tetanus by inoculating rabbits and mice with earth from the garden. I shudder even now to think how many narrow escapes I must have had as a boy, when I gathered up a handful of that tetanus germ impregnated garden earth and pressed it against a wound to stop the flow of blood from my bare foot, which had unexpectedly come in contact with a sharp point of an old broken bottle or a projecting stick. But unlike the illusive bacteria of syphilis, the tetanus germ has been caught, photographed and made as gentle as the horse, into the veins of which he is injected, to produce the antitoxin for the destruction of his untamed brethren.

Drs. C. F. Timmerman, May Greyson and R. F. Dyer, of this country, have reported one case each cured by the use of antitoxin, and a few cases have been reported in foreign countries. I have seen it used in one case, diagnosed by the attending physician and several others as tetanus, without effect. I was not inclined at the time to believe it a case of tetanus, nor do I think so now.

The patient was suffering from a burn on the foot, gave a history of syphilis and epilepsy, and the necropsy disclosed a large tumor on the brain.

I believe there is much to be hoped for, however, from this treatment in tetanus.

DIPHTHERIA.

Probably not in the whole long history of medicine has any question provoked such universal interest and discussion as the serum treatment of diphtheria. It has been discussed almost as much by the layman as by the physician, by the public press as by the medical; and the public press and layman have pronounced in favor of the antitoxin cure of diphtheria so strongly that they have forced many physicians to use this treatment as a matter of self-protection—with the favorable reports published everywhere it took a brave man to resist the pressure to use antitoxin, and treat his little patient as his judgment might dictate.

While the great majority are convinced of the value of the serum treatment of diphtheria, a highly intelligent and respectable minority are yet to be convinced that the diphtheria antitoxin has the curative or immunizing power attributed to it by its advocates; and there are yet others who believe that it is a positively dangerous remedy. Many cases have been reported where serious complications and results followed the use of this antitoxin, but I have seen many of the same results in diphtheria where the antitoxin was not used.

That the antitoxin has been responsible for some bad results and even deaths, there can be no doubt. It is foolish, however, to charge the remedy with all the bad results following its use.

Dr. Welch (*Bulletin Johns Hopkins Hospital*), after an analysis of seven thousand cases collected from eighty-two reports, draws the following conclusion from the evidence: that most writers approve the continued use of such measures, both local and general, which have heretofore been found useful, avoiding local applications of an irritating or caustic nature; that the injection of serum may be followed in a few hours by local pain, swelling and redness, but that if necessary anti-septic precautions are taken there is no danger of abscess formation, Martin observing the formation of abscess but three times in over three thousand injections. The patient is remarkably improved in from twenty-four to forty-eight hours in the great majority of cases who are in any condition to be benefited by the injection of antitoxin; this improvement is followed by a fall of temperature, which may be a critical fall if the disease is not far advanced. The frequency and tension of the pulse is improved with the fall of temperature, but the heart's action may remain weak for a considerable time.

In favorable cases the local diphtheritic process is usually arrested in the first twenty-four hours after the injection of the serum, the membrane-covered area being sharply defined, and the adjacent swelling disappears. The membrane may disappear by gradual softening or rapid separation. Stenotic symptoms may be suddenly increased by the rapid separation of the membrane of the lower air passage. Nephritis is less common in cases treated with antitoxin sufficiently early than under other methods, but it is questionable whether albumenuria is less common, although considered to be so by Roux and Kossel.

(To Be Continued.)

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Original Articles.

Diphtheria and the Use of Antitoxin in Its Treatment and Prevention.

By G. J. HIRTH, M. D., MILWAUKEE.

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Read before the Northwestern Medical Association.

There is no one of the acute infectious diseases in which so much progress has been made, as regards therapy and prophylaxsis, as in diphtheria, and, having this fact in view, it may be well to consider briefly the pathology, etiology and diagnosis, as preparatory to a discussion of our theme.

Diphtheria is classed with the specific diseases, produced by the invasion of a mucous membrane or abraded tegumentary surface with a special bacillus, and is characterized usually by a local fibrinous exudation and constitutional symptoms, produced by the absorption of the poison formed at the site of lesion.

CAUSE AND NATURE OF THE DISEASE PROCESS.

To Klebs and Loeffler is due the honor of proving that a specific bacillus is the cause of the local and constitutional symptoms, commonly known as diphtheria; and, in honor of its discoverers, this germ bears the name Klebs-Loeffler bacillus.

When this bacillus finds lodgment on a mucous membrance or an abraded tegumentary surface, it works its way into the mucous membrane by producing a solution of the intercellular cement. Its toxin produces necrosis of the superficial layer of epidermal cells of the mucosa, thus allowing the plasma of the minute capillaries to exude. This coagulates. The membrane may be spoken of as an inflammatory membrane, consisting of coagulated blood, plasma, necrotic cells, the remaining bands of fibrous tissue of the mucosa, water, extractive salts of the blood, and the specific micro-organisms. If the necrotic process involves the submucosa, there will be an erosion of the minute capillaries, with consequent necrosis of all the histological tissues connected thereto, which practically opens up the way of infection to the blood and lymphatic system; and at this point it may be well to remark that so long as the pathological process is confined to the mucosa, it is reasonable to suppose that the submucosa, together with the granulating surface, which is being formed hand in hand with the necrosis of the superficial layer of cells, offers a fair resistance to the invasion of the blood by the diphtheria bacilli and other micro-organisms.

The danger of the diphtheritic process will depend:

1. Upon the general intoxication produced by the absorption of the poisons which are being formed through the agency of the diphtheria bacilli at the site of infection.

2. Upon the invasion of the mucous membrane of the larynx, trachea, and bronchi with the diphtheritic process, whereby a mechanical interference of the respiratory tract is produced.

3. The constant action of the diphtheria bacilli upon the mucous membrane and submucosa, opens up the channels of infection to other micro-organisms.

While the diphtheria bacilli as a rule reproduce themselves only on membranous surfaces, other micro-organisms, especially staphylococci and streptococci, are prone to invade the inner organs by way of the blood and lymphatic circulation, and produce a secondary pyæmic and septic infection, also a secondary bronchitis and bronchopneumonia.

DEGREE OF INFECTION.

The amount of poison produced by the diphtheria bacilli varies greatly and depends upon the virulence of the diphtheria bacilli *per se*, and is rendered more virulent when mixed with that of other germs, especially streptococci—(Roux & Yersin, and lastly Frunk's experiments on animal organisms)—hence we have every form, from a

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slight catarrhal (without the production of a pseudo-membrane) to the most virulent forms. As regards the molecular structure of the diphtheria poison but little is known, other than that it belongs to a class known as toxalbumins. (Brieger and Frænkel.) It may be designated as the dead diphtheria germs and their excreta. This toxalbumin when reabsorbed acts deleteriously on all the organs of the body, having especially a depressant effect on the heart, nervous system (producing multiple neuritis) and produces diphtheritic or toxin albuminuria.

The belief that the diphtheria bacilli may produce membranous croup is fast gaining ground; it is also possible for other micro-organism to produce a membrane. This is especially true of the streptococci, but the non-diphtheritic membrane is regarded generally as a product of mixed infection. These forms of angina are known as diphtheroid inflammations (Osler); still there is a great variety of opinion as regards the causative factor. Considerable controversy has arisen as to the advisability of using the term diphtheroid inflammation, but as Baumgarten has shown that it is often a mixed infection of diphtheria bacilli and pus microbes, and that the vegetative bacilli soon lose their virulence and disappear as a result of immunity established through the agency of the toxins of the mixed infection, it may be well to retain the term for the present. It is of practical significance, however, to note that these so-called anginas or diphtheroid inflammations terminate successfully in the vast majority of cases, and that in the advanced stages of the disease diptheria bacilli are absent.

At this point it may be well to ask whether it is possible to have a laryngitis membranosa or the so-called genuine larynx croup (not the nocturnal spasmus glossitus or laryngismus stridulus) which differs clinically from the laryngitis diphtherica. In the vast majority of cases of laryngeal croup the diphtheria bacillus are found present, but in a small majority they are absent with an abundance of other micro-organisms. These cases give a small mortality, and are to be classed, as regards mortality, with the diphtheroid inflammations. The so-called secondary anginas of scarlet fever, measels, and other infectious diseases are in no sense diphtheria, but belong to the diphtheroid variety, and usually run a benign course.

The way of contagion is largely through the respiratory tract, or through contact of a mucous surface with the ejected portions of a patient suffering from the disease.

CAUSE OF SITE OF INFECTION.

The tonsil being ofttimes the most prominent part of the respiratory tract, together with the fact that the pillars of the tonsils ofttimes form pockets which serve as repositories for food, thus producing a putrefactive culture medium; further, the fact that the lacunæ of the tonsils serve the same purpose, is doubtless the cause of the tonsil being the starting point of most all throat affections.

The bacillus of diphtheria is quite long-lived in a moist and dark atmosphere, and retains its virulence for months; and ofttimes one can find for days or weeks after a recovery bacilli of a virulent quality present in the throat.

It has been shown by Roux and Yersen that the virulence of the pseudo-diphtheria bacilli can be raised by cultivating the bacilli conjointly with streptococci on a suitable nutrient medium, or by passing through a series of animal organism, with proper conditions of susceptibility, etc. Virulence one hundred times greater in potency can thus be obtained. On the contrary pathogenic bacteria are rendered benign by attenuation, as in the production of the virus of vaccinia. Here are two facts which explain the varying gravity which we have all observed in diphtheria and other infective diseases.

PSEUDO-DIPHTHERIA BACILLUS.

The pseudo-diphtheria bacillus is of great interest, and is regarded by Frænkel, Roux and Yersen as an attenuated form of the virulent bacilli, and that it is possible for it to return to its virulent condition has been suggested as explanation for the sporadic cases which occur where source of infection is not known.

DIAGNOSIS.

The period of incubation is from 2 to 5 days. Diphtheria of the throat, the most frequent seat of the primary lesion, is diagnosed by the formation of a membrane (but may be without), appearing usually upon the tonsil, and spreading to the mucous

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membrane of the pharynx, nose, larynx, trachea and bronchi, with greater or less amount of swelling of the lymphatic system of the neighboring region. The submaxillary glands are usually the first to become involved. For a positive diagnosis the presence of the Klebs-Loeffler bacillus must be demonstrated. In many cases the process remains confined to the pharynx or even the tonsil. The latter is a variety which is easily confounded with the so-called diphtheroid processes, both of which produce fever, but I think a point of differential diagnosis may be made in the temperature curve, which ranges considerably higher (103½ to 105), and for a longer period of time, in follicular or lacunar tonsilitis. Iin both cases the pus producing microbes act as the causative agent of the fever. I think that we may safely say that in a true diphtheria without streptococcus infection the temperature rarely reaches over 100 to 101½ or 102½, with extreme prostration rather than a listless condition. The pulse is *small*, 100 to 120, weak and frequent, but it may be slow and intermittent, due to disturbances in the medulla. The general nervous system is depressed. There is no correspondence between the local condition and the extreme prostration. There may be a high degree of intoxication, resulting from the absorption of the toxin from the mucosa where there is absence of a pseudo-membrane. (F. Gagenhofer.) In this case the diagnosis can only be made upon bacteriological examination. Their absence in one examination does not prove conclusively the non-existence of a true diphtheritic process. Eschericks has shown from statistics taken from the diphtheria stations of Paris, Berlin and New York, that out of 679 cases only 63 per cent. showed the presence of diphtheria bacilli.

As a result of the general systemic intoxication, we have more or less cloudy swelling of all the glandular organs of the body. There may or may not be albuminuria. It is most generally present when the diphtheria is from a mixed infection. I think that since experiments have shown that the kidneys are capable of caring for almost any quantity of antitoxin without producing nephritis, it is reasonable to presume the nephritis is usually caused by the toxins from the pus producing germs. Another point in favor of the nephritis being caused by pus toxins, is that the albuminurias occur rarely before the 4th or 5th day. I think clinical experience will bear me out in the statement that, when the initial lesion is in the nose or throat, the prostration is usually greater and more rapid in its onset than in laryngeal and tracheal diphtherias, owing to the fact that the absorption is greater from the nasal and throat membranes. Atypical forms are extremely common from a clinical point of view, but time and space will not admit of a thorough classification.

As in the treatment of infectious diseases in general, we attempt to destroy the micro-organisms which have found lodgment within or upon the body, or, failing in this, to antagonize the effects of the poison and to maintain life until the germ, weakened by successive generations of growth, or poisoned by its own products, ceases to manifest its ill-effects, and the disease terminates by self-limitation.

THERAPY.

For convenience it is best to study the different indications to be met under the following heads:

1. Prevention.
2. The destruction of the diphtheria bacilli *in situ* by local aplications.
3. The elimination of the toxins.
4. Counteracting the toxin by administering an antidote.
5. Lastly, the prevention of the mechanical interference in the respiratory tract.

PROPHYLAXIS.

Isolation of patients and attendants. The free use of steam at 100 C., or sublimate 1-1000 to all septic material, and its general use in washing the floor. The patient should never be allowed perfect and entire freedom with other children until after the fourth week. (Loeffler.) The extirpation of hypertrophied tonsils, good hygiene, the avoiding of great changes of atmosphere, and a gargle of sublimate 1 to 15,000 (Loeffler) or 1 to 10,000 or stronger in those that are supposed to be infected are good prophylactic measures.

The destruction of the bacteria through local treatment is only of value at the onset of the disease when the colonies of bacteria are localized on a small area. It is best effected, as Loeffler has shown, by sublimate 1 to 1,000, either alone, or in combination with 5 grams of tartaric acid or

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common salt; or, Loeffler's solution, viz., Menthol 10 grams dissolved in a solution of 36 c. c. Liq. Ferri Sesquichloridi plus 4 c. c. alcohol. Applications should be made with a cotton swab every 2 or 3 hours. but only at the onset of the disease. When the process has invaded larger areas or has become a mixed infection, the swabbing might result in a lesion of the capillaries, thereby opening up a way of infection through the circulation to the internal organs. Clinical as well as experimental evidence bears one out in the statement that local treatment properly applied is of much value.

Lastly we may mention the local application of the ice-bag externally, and small pieces of ice internally, as of value.

The elimination of the toxin and the immunization of the patient are questions of great moment, as are also the prevention of the secondary infection and the neutralization of the toxins of the same. By irrigating the throat and nasal passages with 1 to 15,000 bichloride or 1 per cent. boracic acid solution every two or three hours, we wash away a portion of the toxins produced *in situ*, and also prevent secondary infection from other micro-organism, more particularly the strepto and staphylococci. Immunization and the antidotal condition are best brought about by the administration of blood serum, taken from an organism which has been rendered immune to the diphtheria toxin. This blood serum is known as Antitoxin Serum.

PREPARATION.

First. All manipulations are to be under the strictest antiseptic precautions. Pure diphtheria culture plus bouillon plus large, well æreated flasks under bacteriological laws plus 3 weeks; then filter out the toxin, or kill the germ with carbolic acid ½ per cent. or ⅓ per cent. tricreosole, and with the toxin inoculate any susceptible animal, preferably the horse or goat, with 2 or 3 c. c. of toxin; the horse reacts to this poison and gets sick, and when well double the dose, and repeat as often as he reacts; oftentimes in Koch's institute, we went as high as 50 c. c. After the horse is immunized, draw off 10 to 15 pounds from the juglar vein; allow it to stand in large bumpers at ordinary temperature for 12 hours; then 24 hours in refrigerator; decant the serum and remove by pressure from the clot as much serum as possible; put in 10 c. c. flasks with camphor, which is small dose for small child. From 2 months to 1 year may be required to render the horse immune. At first it was thought by Buchner and Bering and their co-workers that the action of the Heil-serum was not an antidotal one, but acted by immunizing the unaffected cell territories which had not already been immunized or affected by the diphtheria toxin. That Buchner was correct in the latter is proven by subsequent research, but to Erlich and his co-workers, Kassel and Wissermann, is due the honor of the discovery that aside from the immunizing power, the Heil-serum possesses an antidotal action to the diphtheria toxin by rendering it inert when mixed in given quantities and injected into susceptible animals. Their methods consisted in experiments of the above nature and they found that one part of all antitoxin serums which they had prepared was sufficiently strong to render inert ten times the fatal dose of the toxin for susceptible animals. In order to establish an exact unit of strength they prepared a serum by dilution of which 1-10 gram was sufficient to neutralize 1 gram of the toxin. Upon the basis that this amount was ten times the fatal dose given for a guinea pig of 300 grams which they termed normal therapeutic antitoxin serum. One c. c. of this serum is called an immunizing unit, and a serum 10 or 60 times as strong would contain 10 or 60 immunizing units respectively, etc.; hence the term antitoxin unit.

DOSAGE.

Experience has shown that almost any dose of the serum can be injected with impunity, and clinical evidence teaches that large initial doses act more efficiently than small ones in severe cases. In a child over 2 years old 2,000 to 2,500 units should be used for the first injection. This dose should be repeated on the following day, provided there is no improvement, and if necessary a third or fourth may be given on succeeding days. For the milder forms of the disease in children over 2 years, and severe forms under 2 years, 1,000 serum units should be used and repeated when necessary. I have given the maximum doses as advised by good authorities, though other good authorities have used smaller doses with good re-

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sults. A great number of preparations are on the market, varying in strength. The dosage should be determined by antitoxin units and not by quantity. The antitoxin should be injected as soon as possible. In favorable cases the effects of the serum are seen to a remarkable extent in controlling both constitutional and local symptoms. The earlier the injection the more favorable the prognosis. As a result of the injection there may develop an abscess, a diffuse urticaria or erythema, or a slight œdema of the hands and feet, all of which pass off within a few days without any serious results. There is no evidence that albuminuria is more frequent in cases where antitoxin is used than without, and indeed since the mortality has been lessened, the fatal albuminurias have diminished. Out of a total of 996 cases reported by three different factions, namely, New York Board of Health, Chicago Board of Health and the report of the Pediatric Society, the mortality and number of cases were as follows:

American Pediatric Society—1st day, 5 per cent.; 2d day, 2.8 per cent.; 3d day, 12 per cent.; 4th day, 22.9 per cent.; 5th day, 38.9 per cent. Cases, 764. Average, 13 per cent.

New York Health Department—1st day, 8 per cent.; 2d day, 12 per cent.; 3d day, 16 per cent.; 4th day, 20 per cent.; 5th day, 29 per cent. Cases, 126. Average, 1 per cent.

Chicago Health Department—2d day, 1.5 per cent.; 3d day, 2.7 per cent.; 4th day, 14.1 per cent.; 5th day, 34 per cent. Cases, 106. Average, 6.4 per cent.

Statistics show that the usual mortality without the use of antitoxin in hospital practice was from 25 to 50 per cent., and with antitoxin it has been reduced to from 6 to 20 per cent., mean average 17 per cent., the average per cent. of death reports taken from 3,500 cases from German journals.

INTERNAL MEDICATION AND ACCESSORY TREATMENT.

A specific medicine to render inert the absorbed toxins is not known, and doubtless quinine in small (not antipyretic doses) stands at the head of the list, especially in complicated sepsis. Next to quinine we have the mercury preparations and turpentine. The old custom of giving calomel has largely been replaced by corrosive sublimate in doses ranging from 1/6 to 1/3 gr. per 24 hours, and Jacobi gives as large as 1/2 gr. doses per day for severe cases in large children and adults. While it may be possible that children possess a higher degree of impunity per body weight than adults, great caution should be exercised, especially when corrosive sublimate is being used topically. Personally I favor the use of calomel in all forms of diphtheria as initial treatment, and if the case does not respond to treatment, I use inunctions of the Blue Ointment of Mercury (the method to be described later), in repeated full doses until free purgation results. Of course, whatever form of mercury is given, its action is essentially the same, namely:

1. Mercury acts as a disinfectant to intestinal contents.
2. The production of a gastro-enteritis which augments the toxins excreted from the blood.
3. Increased diuresis, having the same result.
4. Small doses of mercury increase the number of red corpuscles of the blood within two days.
5. Lastly it appears to have the power (which may be explained through its alterative action) of causing absorption of fibrinous exudatives.

As regards turpentine it is recommended highly by some, in teaspoonful doses given twice daily; its action is in part that of mercury, but it is not o general in its action. The rule should be to give in sufficiently large doses to produce diarrhea. Of the other therapeutic remedies, iron, potassium chlorate, antipyrine, quinine, phenacetine, etc., should be strictly forbidden, as the resistance of an already depleted system is the more diminished and collapse is likely to occur. For the same reason cold baths should be prohibited.

SUPPORTING STRENGTH OF PATIENT.

Especial importance should be paid to the diet; feeding should be insisted upon at regular intervals, with milk, bouillon, eggs, wine (Sherry, Maderia and Port wine) and lastly, enemas of Stoke's mixture, bouillon and peptones. For symptoms of heart failure and collapse, aside from wine and strong coffee, injections of camphor oil one-half to two minims in small children and in double quantities in large children and adults, should be given.

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It is logical to assume that quinine best meets the condition in small children in the initial stage, as it is best adapted to support the patient from the untoward effects of the toxins of the pus germs. It prevents tissue metamorphosis by lessening all metabolism, and this is to be desired. Clinical experience also bears us out that it and whisky are our chief anchor lines in combating sepsis. It is hoped that the discovery of an antidote for the pus toxins is not far off.

COLLAPSE.

Extreme prostration and collapse are best managed through the agency of warm baths or warm packs, thus ridding the system of a portion of the toxin by transpiration. In cases of weak heart Erb and others advise galvanism, one electrode being placed over heart, the other over cervical sympathetic or back, using a weak current for 70 or 80 minutes. Henoch is in favor of hyperdermics of strychnine of 1-100 to 1-60 grain per day. In all cases absolute rest in bed should be rigidly insisted upon. In paralysis of the muscles of deglutation it is better to use the stomach tube for feeding purposes than to try forced feeding, as the latter is apt to result in the passage of food into the respiratory tract with consequent untoward results (note on nature and way of feeding, as also the production of a schluckpneumoniæ). A special treatment for albuminuria, should it occur, is not necessary, and the alcohol should in consequence not be withheld, but it should be regarded as an indication for more in order to better protect the system from collapse and septic infection. Just at the height of the disease alcohol has a most important place. At this time meat and the stronger foods are out of place.

MEMBRANOUS CROUP.

Treatment of Diphtheritic Membranous Croup of the Larnyx and the Trachea and the Prevention of the Mechanical Interference of the Respiratory Tract by the Formation of a Membrane.

While in the treatment of pharyngeal diphtheria we applied such remedies as were best fitted to limit the extension of the membrane and the removal of same if possible, in the above variety the elimination of the membrane is more imperative because it offers a mechanical obstruction to the respiratory passages. The inhalation of steam, with or without medication, gives the most satisfactory results. Where a spray cannot be employed I am accustomed to supplying vapor by means of an alcohol lamp with the addition of a few teaspoonfuls of turpentine to each draught of water (one-half pint); or the vaporization of steam by means of a large wash-boiler, into which lime has been placed, may be used. If medication is to be used, I think it should be of an alkaline character, as the metals of the alkaline earths, calcium, sodium and potassium, assist in dissolving the diphtheritic membrane by forming soluble compounds of albumen with the same. Hence a spray of calcium hydrate or sodium hydrate, with the addition of lactic acid (to be used as a disinfectant) may be used. I am not inclined to favor emetics as a means of dislodging the membrane in laryngeal stenosis. A prescription of Pul. Rad. Ipecac. 1.5, Tartar Stibiat. 0.05, Syr. Oxyal. Scill. 15.0, Aquæ 30, to be given in teaspoonful doses every ten minutes until relieved, is probably the most efficient means of producing emesis. It should be preceded by copious draught of cold water. In collapse and a weak heart all forms of emetics are contraindicated. Personally, I am much in favor of large inunctions of mercurial ointment in cases of tracheal and larynx diphtheria, to be used before the asphyxia has occurred. Children under 3 or 4 years may be given 2 to 2½ grams of mercurial ointment, and children over 4 years 4 or 5 grams to be rubbed in on different portions of the body in four or five doses daily until the desired effect is produced, or the constitutional symptoms of mercurialism become manifest.

Cold compresses are indicated in all cases and the ice-bag in all cases of the laryngo-tracheal variety. Its action is to increase phagocytosis, and a contraction of the capillaries, thus relieving the congestion of the mucuous membrane, thereby relieving stenosis to at least a limited extent. I cannot too warmly recommend the free use of cold compresses and the ice-bag for I have often seen its good results in relieving the axphyctic symptoms and can conscientiously say that it has prevented two tracheotomies during the past year. Other actions of the cold compress and ice-bag are to retard tissue metabolism, and relieve the pain due

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to the congestion, thereby enabling the patient to swallow food.

TRACHEOTOMY AND INTUBATION.

The indications for tracheotomy and intubation are to be considered as questions of great moment, as in tracheotomizing without due consideration many patients will undergo the operation who would otherwise have recovered without it, thereby being unnecessarily subjected to danger. It is only after all other methods have been thoroughly exhausted that we are justified in resorting to operative measures. Waiting until exaggerated axphyctic symptoms or cyanosis are present, is most generally if not always too late to warrant good results. It is only indicated in those cases where the stenosis and impediment to the respiratory function is in the larynx or upper portion of the trachea, and never when the lungs are involved with the croupous, pneumonic or diphtheritic process. We may regard an involvement of the accessory muscles of respiration as indicative for tracheotomy after all other means have failed; but strict attention to detail of after-treatment is of the greatest importance. My experience and observation favors tracheotomy, the technique of which is in no way difficult. Intubation may be resorted to before tracheotomy since the danger in consequence of the operation *per se* is not so great.

THE USE OF ANTITOXIN SERUM FOR THE PREVENTION OF DIPHTHERIA.

Clinical experience has shown that the use of antitoxin in the prevention of diphtheria to those who have been exposed is of untold value and may be regarded almost as a true specific in the prevention of the disease. Personally speaking I have immunized 22 children which had been exposed to true diphtheria without any untoward effects, or without any having contracted the disease. Biggs, in the *Medical News*, No. 22, of Nov., reports a total of 1,043 cases immunized which had been more or less exposed, with a result of immunity to all cases but 3 within the first 30 days. An interesting case occurred in my practice which I deem worthy of reporting. On .... I was called to treat a case pharyngo-tracheal diphtheria of a high degree, which responded to antitoxin and the general therapy as has just been given above favorably. The remaining children, but one, of family were immunized with the regulation dose of antoxin; this one received the last portion of the antitoxin which was only 50 immunizing units. Thirty-two days following I was called to treat a child in the same family and it was found to be suffering from a high degree of laryngo-tracheal diphtheria and without inquiry the parents told me that the little one afflicted was the one to whom only a portion of an immunizing dose had been given. The rule should always be that in every family where a case of diphtheria confirmed by bateriological examination occurs, each and every member of the household should be immunized at once. The dosage as given by Bering is, for a child 2 years old, 150 units; 3 years old, 200 units; 6 years old, 300 units; 7 to 15 years old, 500 units, and from 15 to 30 years old, 600 units. The effects of immunization dependent upon the injection of the serum are in no way dangerous to life, and a slight elevation of temperature and a diffuse or local erythema may and most generally does occur, but in no way so pronounced as in those cases of diphtheria where larger doses have been used. Personally I have treated 12 cases of diphtheria during the past winter, and a detailed account of each case I hope to report in a separate paper.

Address by W. B. Hill, M. D., Milwaukee,

At the Opening Exercises of Milwaukee Medical College and School of Dentistry.

GENTLEMEN: To-night opens another chapter in the history of our institution, and is the beginning of an unwritten page in each of your lives. For many of you it is the beginning of a new career; the commencement of a study which will engage your attention throughout the years of your life.

The college life of a man is an epoch in his history never to be forgotten. It is here that the foundation for the great superstructure of education is laid. The art of learning to learn has to be mastered. The mere accumulation of facts, however important and numerous, does not comprise an education. Habits must be acquired which give color to the entire course of one's professional life. The acquisition of fundamental truths is no unimportant factor in education, but the mastery of the mind which enables one to ar-

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range and systematize facts in the great storehouse of the brain, so that they may be brought forth at will and utilized, and the power to draw conclusions logically and accurately from the recorded experiences of others, as well as the observation of one's self, is a factor in education of far more significance.

A medical education consists largely in the training of the perceptive faculties. An unobservant man would be as useless in the medical profession, as he would be in the Secret Service of our country, or a detective agency. The renowned "Sherlock Holmes" was not a creation of Conan Doyle's mind, but a fantastic portrayal of the acute perceptive faculties of his teacher of physical diagnosis.

In the ordinary pursuits of life we are constantly called upon to reason from cause to effect, which is, comparatively, a simple procedure; but in your profession the effects are before you, and you are asked to turn back into the highways and byways, and seek out the cause; a process which often requires the most consummate skill and careful training.

It is here that character is largely formed and associations entered into that have lasting influences on your lives. The industry and integrity which characterizes your work here will follow you in your professional lives, and, if I believed that we had any drones in the classes, I would add, that their indolence and insincere work would be the nucleus of a millstone hung about their necks which would drag them to the bottom of the sea of adversity.

Your association with earnest, honest men in your college life will be an inspiration to you, and be no small factor in the foundation of your character.

The life of a doctor is of the highest type that has ever been portrayed. Not idealistic (he is seldom lionized, either in fiction or in art), but decidedly realistic. His is a life of self-sacrifice; his own comforts and pleasures must be foregone for the sake of his patients. 'Tis he who must sacrifice the comforts of his bed to welcome the wayfarer from the unknown land, and he again who mitigates the pain that racks the body of him who is passing to the great Unknown.

The epitome of a doctor's life should be: "He went about doing good." Let yours be such as to amply justify it. "Ah, but," I hear some one say, "for all your sleepless nights, your forced abstinence from food at regular intervals, and other hardships to which we know you are subjected, you are a sleek, jolly, and well-fed looking set. How comes it?" In the words of the Friar: "Who lives a good life, is sure to live well."

Many think that the field of medicine is fully occupied; that there is no room for more workers. In the lower strata of life, whether it be medicine, art or trade, there is always a crowd jostling each other in the race for dollars, and their highest ambition is to trample down those about them. But I say to you, that for the ambitious there is no such thing as crowding. Up in the high realm of Science, one is appalled by the magnitude of the unknown that is to be mastered, and the insignificance of that portion we now possess.

Medical science has made such rapid strides in the last few years that it has attracted to its ranks many men of fine attainments. New fields are being opened up every day, by the pioneers, that must be worked by their followers. The microscope is daily revealing new worlds to conquer, and it is your privilege to be among the victorious army of conquerors; perhaps not as leaders, but if not, you may be in the first rank of the workers that are necessary to the conquest of ignorance.

The doctor of to-day is of a far different character than was the doctor of fifty years ago. The mystery of his voluminous potions no longer allure the superstitious mind; his scanty, but oft-vaunted Latin, no longer mystifies his simple listeners. To-day he must be the possessor of knowledge; his mind, coming in contact with the steel of intelligence, must be of such quality as to give off the spark of wisdom. His education must be broad; his mind never restricted within the narrow limits of "pathy's, or isms," and his development must be such as to round out his character into the full stature of a man. He must rise above the petty jealousies that fetter so many of us mortals, and look beyond and above those things that annoy.

He must be possessed of that self-confidence

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which comes of self-knowledge, and having attained that he will inspire confidence in others. The financier is entrusted with wealth, and is held responsible for its use and proper investment. The attorney is often entrusted with that most priceless gift, liberty, and feels the responsibility that is imposed upon him; but the doctor is entrusted with the very life of man, which once having been sacrificed, can never be recalled. This responsibility lends a seriousness to our profession, which makes it incumbent upon us to spare no pains in laying the broad foundation of our education. The doctor of to-day is not judged by the attainments of the profession in the past, but by the possibilities of the present. Let it be said of you: "He is a conscientious student." For some years surgery has allured to her fields the bright minds of our profession: Great achievements have been made, and that branch of medical science stands to-day so perfected that it is considered almost an exact science.

To-day, medicine calls you to her enticing fields. The study of bacteriology has opened up new channels for thought and investigation. The real cause of disease is beginning to be understood and empiricism is giving way to rationalism. The more intricate problems of physiology are being unraveled and Nature's method of curing disease is being studied. The chemistry of cell life is in its infancy, and the opportunities afforded in the study of the chemistry of ptomaines is such as to place distinction and fame at the hands of the industrious and aspiring.

The microscope, the key that unlocks the doors of the storehouse of knowledge, is at your disposal. The knowledge of its use has been largely reserved for the present generation. Your predecessors were obliged to grope in darkness, and correspondingly few to-day are permitted to enjoy the pleasure and benefits of this most useful means of advancement.

You are here to-night with the brightest of prospects. You are entering one of the noblest of professions: the study of the highest type of creation—man. It is a most fascinating study. Mechanics and engineering fade into insignificance beside the study of a mechanism so delicate and intricate that the most ingenious works of man are but crude and clumsy in comparison. You are entering this profession at a time when it is calling for bright minds and earnest ones, to work the fields that have been so recently opened up by modern scientific research.

You are entering it in a place best calculated for your advancement. MILWAUKEE offers advantages equal to any city in our land for the study of medicine.

The tenor of her sturdy inhabitants would inspire you to constant and steady effort to push on in the race that is before you. Her beautiful climate and your beautiful surroundings are such as to make study a pleasure, and the cordiality of her people is such as to render a student homesick only when obliged to leave her beautiful domains. Of the ladies of our city, whose cheering smiles and enticing culinary accomplishments are so much to the medical student, I can not hope to do justice. My words are too feeble to express my sentiments, and I would, therefore, beg to refer that matter to our Otologist, who is free from those ties that make some men circumspect in their utterance regarding the opposite sex.

You are entering the medical profession in a school that should inspire you with an effort at success, that must land you far above the line of mediocrity. A school as substantial as the rocks upon which it is built. The Board of Directors have placed at our command a building and equipment second to none, and their only anxiety now is to provide for the increasing multitudes of students that are being attracted to our institution by the meritorious work that is being done.

You may expect of us the best effort of which we are individually capable. And of you we do expect the same, We are proud to-day of our building and our equipment; we are proud of the success that has crowned our every effort; but most of all are we proud of the character of the students who have adopted the colors of Milwaukee Medical College. By their achievements in the broad field of practice our graduates have honored us. In the class-room and the laboratory our students have honored us by their perseverance and industry; and to-night, as we gaze upon the intelligence and earnestness of the faces before us we feel it an honor to belong to the Milwaukee Medical College.

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Translations.

Treatment of Migraine.

Critzman believes that the paroxysm of migraine is also the result of a rupture in the equilibrium of the cranio-cerebral circulation. He also advises the following:

1. Diminish the hyperasthesia of the painful region by an aspersion of *eau de seltz*—seltzer water.

2. Immediately after exercise an energetic compression of both temporals. To compress these vessels begin by marking with ink their exact position. Cut two discs from an ordinary cork, and apply them over the arteries; then hold them in place by passing around the head several turns of a moistened gauze bandage.

3. Every two hours let the patient take one of the following papers:

℞	Antipyrine	0.50	
	Sparterin sulph.	0.02	
	Caffein citrate	0.10	M.

Give four of these cachets, even after the pain has completely disappeared.

4. If there is gastric intolerance, as is often the case, the above mixture may be given in *lavement*. This treatment will abort the onset, and most often permit the patient to continue his vocation; at the same time pain and nausea are suppressed, and consequently confinement and obscurity, to which the migrainous patient condemns himself. —*Pres. Med., 1896; Bull. Gen. de Therap., 1896, August, pp. 140–1.* W.

Double Latent Ulcer of the Stomach.

Diviart and Apert presented a stomach to the Societé Anatomique which showed perforations on the anterior and posterior walls remarkable by their symmetry. In fact, these two perforations have the same round form, the same size—of a 50-centime piece. These two ulcers remained absolutely latent until the day when the symptoms of perforation suddenly appeared, surprising the patient in perfect health.

The patient was a young girl of twenty years, who had always enjoyed excellent health and had never had digestive troubles. She had had neither vomiting, hematemesis nor severe gastric pains.

It was an hour or two after dinner when she suddenly felt an atrocious pain in the epigastrium. She screamed and twisted herself so much that those surrounding her thought she had an hysterical crisis. To relieve her was all in vain. Her suffering continued all night, and only towards morning was the pain somewhat lessened, but by extending over the whole abdomen.

In the morning the abdomen was sensitive to the least contact, rather tense than tympanitic, without perceptible tumor, nor zone of flatness; pulse frequent; no other morbid sign; no *facies peritoneal*. It was thought a generaiized peritonitis existed, whose cause was unknown.

MEDIAN SUBUMBILICAL LAPAROTOMY. — On opening the peritoneum a flood of yellowish liquid escaped from the belly. The intestines appeared red, congested, and in places presented creamy false membranes of recent formation.

Introducing the hand into the wound to find the appendix, the ovaries and the tubes, convinced that these organs were all sound and healthy.

Every exploration brought out more yellowish liquid from the belly, which seemed to come from above. The bad general condition of the patient, whose pulse and respiration weakened in a fearful manner, caused them to simplify the intervention as much as possible. The peritoneal cavity was washed with boiled water, the wound closed, leaving, however, a drain in the lower part. Death next morning at nine o'clock.

AUTOPSY.—Lesions of recent, generalized peritonitis, more marked in the upper part of the abdomen; appendix, ovaries, tubes, uterus absolutely healthy; no intestinal perforations. The visible part of the stomach is healthy, but, on raising the liver, one perceived, deeply hidden over the inferior face of that organ, the perforation of the anterior wall.

That of the posterior wall appeared only when they wanted to detach the stomach. It was adherent to the pancreas by recent false membranes, which were easily torn. The subjacent pancreas, liver, spleen and thoracic organs were absolutely healthy. In a word, there was no lesion anywhere except the two ulcers which have been described.

Besides the curious symmetry of the ulcers, this observation is a beautiful example of latent ulcer, having been able to develop to perforation with-

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out having provoked the least morbid symptom. It shows that in peritonitis with sudden onset perforating ulcer of the stomach should be thought of, even in absence of symptoms of ulcer. The diagnosis, important to make in order to guide the surgeon's researches in case of intervention, will rest on the following elements: Sudden, brutal onset, atrociousness and epigastric situation of the pain, tension of the wall, especially in the upper part of the abdomen near the left rectus muscle anteriorly, absence of nausea and vomiting.—*Le Bulletin Medical, 1896, p. 965.* W.

Thrombosis of the Vena Cava Inferior.

Haushalter and Etienne reported three cases of thrombosis of the vena cava inferior at the French Congress, in which only very attenuating signs were manifested during life.

At the autopsy it was observed that in these cases the peripheral extremities of the veins were not involved, which explains the poverty of symptoms, the superficial venous system permitting the re-establishment of the current of the blood; if, on the contrary, the peripheral extremities are involved at their origin, the return ways for the blood current are closed, edema results; further, in these cases, the lesions of the small veins of the nerves determined the pain, and the *syndrome phlegmasia alba dolens* is constituted.

Besides, these three cases were observed in tuberculous patients, that is to say, in an affection in which the lymphatic glands are indurated, and notably the peri-venous glands. In these cases there may have been infection of the glands and, from vicinity infection, infection of the peri-venous cellular tissues, peri-phlebitis, phlebitis and venous coagulation. In several cases the authors have found the bacillus of Eberth in these glands at autopsy of typhoids, and in one case they found the Eberth bacillus in the clot and in the walls of the thrombosed vein.—*Le Bulletin Medical, 1896, p. 775.* W.

Death Resulting from the Ingestion of Pins.

One day a hysterical woman was taken, without any known cause, by severe abdominal pain and vomiting of blood. During the months following hematemesis was reproduced a number of times; the abdomen became very sensitive. Finally, at the end of ten months, about, death supervened during the midst of symptoms of acute peritonitis.

AUTOPSY.—On the small curvature of the stomach was a patch the size of a 5-mark piece, covevered with small hemorrhages. In the cæcal appendix were found two pins, having their heads turned turned toward the appendicular extremity. There was pus in the small pelvis and on the surface of the liver.

Friedberg, who reports the case, believes that these pins had first wounded the walls of the stomach and provoked the hematemesis, then they passed through the bowels, reached the appendix, where they became fixed. There, after a certain time, they caused an inflammation, which ended in mortal peritonitis.—*Centralb. f. inneri. Med., No. 20; Le Bulletin Medical, 1896, p. 889.* W.

Infantile Blennorrhagia.

Blennorrhagic urethritis among children is a very rare affection; it is met sometimes in little girls contaminated either accidentally—transmission by a thermometer, Weill and Barjon—or as result of criminal attempt; more rarely it is observed in little boys. In the latter case the mode of infection is often very difficult to determine.

In the dense, poor Israelite population of Odessa, Goldenberg had the opportunity of observing three cases of blennorrhagic urethritis in children of four to eight years of age whose etiology could be determined, and of which one is especially interesting because it was complicated by an epidydimitis.

The two first cases were two boys, the one four and the other six years old, both of whom required medical aid for a complete retention of urine. The examination made, Goldenberg noted a purulent discharge from the inflamed meatus containing the specific gonococcus in a state of purity. Simple sitz baths produced urination; some injections and administration of salol cured the little patients. They had been contaminated, one by a domestic, the other by an aunt, whose beds they occupied.

The third case was a boy aged eight years. Since three weeks he had felt pain in the scrotum

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and had trouble in urinating. The parents contented themselves by making applications of compresses. But as the pain became intolerable, the child was brought to the physician. The latter found the scrotum enormously swollen, as large as a fist, the skin smooth, fluctuation manifest. It was impossible to palpate the testicle. Pressing over the meatus caused a droplet of pus to ooze out, which, under the microscope, revealed the gonococcus. For the suppurating orchitis intervention was necessary. A large incision was made and the pus evacuated, which also contained the blennorrhagic microbe. In ten days the wound closed, but the epidydimis remained painful and indurated for some time. This urethritis, complicated with blennorrhagic orchitis, had been the result of attempted sexual relations between the patient and a domestic aged thirteen years, who suffered from an undoubted vulvo-urethritis.—*Le Bulletin Medical, 1896, p. 901, and Ioujno-rouskaia Med. Gazette, No. 27, 1896.* W.

Infantilism from Acquired Syphilis.

The patient affected by infantilism resulting from syphilitic infection at the age of two months —from his mother. His mother had been contaminated by a nursling. He is now 24 years of age, and remains atrophied. Small in stature, he measures only one and 40-100 metres in height. His thorax is but little developed; the genital organs are completely atrophied; the penis like that of a young infant; the testicles are the size of a small bean. He is absolutely hairless on face, in axillæ, on pelvis.—*La Tribune Medicale, No. 16, 1896.* W.

The Editor His Poem.

Who weeps with you when you are sad, and laughs with you when you are glad, and swears with you when you are mad? The editor. Who has to be both kind and wise, and never (hardly) ever lies, and when he does, creates surprise? The editor. Who owns a heart as well as cheek, is possessed of a spirit proud but meek, and lives on forty cents a week? The editor.—*Weekly Enterprise, Hamilton, Va.*

Publishers' Column.

Columbia Calendar for 1897.

A Very Useful Memorandum Block with Leaf for Each Day, Filled with Bright Thoughts and Graceful Pictures.

The twelfth annual issue of the Columbia Pad Calendar has made its appearance in more pleasing form than ever before, having scattered through its daily leaves many charming illustrations, with an appropriate thought or verse for each day in the year. Among the topics are bicycling, outdoor life, and good roads. The cycling fraternity, to say nothing of the general public, has acquired a decidedly friendly feeling for the Columbia Calendar, and its annual advent is always looked forward to with interest and pleasure.

The 1897 calendar contains a unique arrangement of dates that will prove very helpful and convenient to busy men, and plenty of space is allowed for memoranda, so that the block may be used as a diary, or in any event will become a storehouse of the many little things one desires to be reminded of day by day.

The twelfth edition is bright with contributions from friends and riders of the Columbia bicycle, for such a host of friends has the calendar acquired that it has become a customary practice for wheelmen all over the country to jot down their best thoughts and inspirations after the exhilarating influence of a Columbia ride and send them in to brighten the calendar's pages. In addition, the moon's phases are indicated for the benefit of those who wish to know the best time for night riding.

One feature of the calendar is its neat stand, so arranged that the block can either be used upon the desk or hung upon the wall.

The calendar can be obtained for five two-cent stamps by addressing the Calendar Department of the Pope Manufacturing Company at Hartford, Conn.

Pain and Rest in Diphtheria.

Rest is one of the sweetest words in our language, and in the management of no disease is this more true than in diphtheria. In keeping with the experience of Prof. T. E. Murrell, ex-vice-president of the American Medical Association, and Dr. Pollack, of St. Louis, who have found antikamnia valuable as a reliever of the pain of nocturnal earache, it has also been found

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of great value as a sleep producer in these cases. Given in doses of two and a half to five grains every two to four hours, there is no depression, nor have other than satisfactory results obtained. Dr. Eggers, of Horton Place, St. Louis, reports in the treatment of an attack of diphtheria in a member of his own family that, to obtund the pain consequent upon the injection of antitoxin-serum, which ordinarily lasts from three to four hours, he exhibited antikamnia internally, securing relief in a few minutes. In the treatment of any neuroses of the larynx, coughs, bronchial affections, la grippe and its sequelæ, as well as chronic neuroses, clinical reports verify the value of codeine in combination with antikamnia, the therapeutical value of both being enhanced by combination.

Treatment of Uterine Disorders by the General Practitioner.

WITH CLINICAL NOTES.

EDITOR MEDICAL SUMMARY:

That a very large percentage of the ailments of the female pelvic organs can be relieved and cured by intelligent and well directed local and constitutional treatment, is a fact which is becoming more and more evident every day. Indeed it has always been held by the careful and conservative element of the medical profession that resort to the surgeon's knife is vastly of more frequent occurrence than there is necessity for. The profession at large, however, gave way to the craze for indiscriminate operating; not only in the domain of gynecology, but in every branch of the art and science of medicine, until now the general practitioner is become little else than a drummer for the surgical specialist. Such abject and absolute surrender to the specialist has injured the physician in more ways than one. The diminution of professional income has been marked, likewise the prestige; and that abiding faith and confidence which was wont to be reposed in the family physician is now, most unhappily, a thing of the past. The signs of the times, however, point to an awakening of the profession to the evils brought about by a monopolizing specialism. The family physician is beginning to see the disadvantages, both to himself and patient, of this wholesale deference to the specialist, and in consequence thereof many physicians are now treating successfully cases which but recently would have been turned over to the gynecological surgeon for mutilating operations. In order to illustrate, in a measure, the value of local and constitutional treatment I beg to submit the subjoined clinical notes.

Case 1.—A married women, age 32. For several months had complained of dull heavy pains in abdomen and back, worse during menstrual periods. Menstruation was scanty and irregular, and there was a moderate leuccorrheal discharge. She had lost flesh, was weak, had little appetite, and slept badly.

A specialist whom she had consulted had advised removal of the ovaries and tubes as the only relief. Examination revealed ovaries tender and somewhat enlarged, also endometritis.

She was ordered a hot boric injection twice daily, and put upon the following prescription:

℞ Dioviburnia .....ʒij
Fl. ext. cimicifuga } ..... aa ʒss
Fl. ext. hydratis }
Elix. simplex.....ad q. s. ʒiv
M. Sig.—Two teaspoonfuls four times a day.

Under the above treatment improvement began at once, and in two months she was discharged cured.

Case 2.—A virgin, age 21, pale, anemic, nervous, and of poor muscular development. For two years menstruation had been profuse, with occasional metrorrhagia. Her principal trouble, however, was dysmenorrhea, the severity of the attacks often compelling her to resort to opiates. The following prescription was ordered, conjoined with regular and systematic exercise in the open air:

℞ Sodii brom.....ʒiv
Dioviburnia .....ʒij
Fl. ext. ergot.....ʒiv
Elix. simp.....ad ʒiv
M. Sig.—Two teaspoonfuls three times daily.

This was continued for eight weeks when an addition was made to the treatment in the shape of elixir iron, quinine and strychnine. An occasional saline laxative was also given to overcome a tendency to constipation. The patient has now, at the end of three months, gained sixteen pounds in weight; the rosy hue of health is on her cheeks, and the menstrual function is normal. In conclusion I wish to remark that the preparation dioviburnia contained in the above prescriptions, is one of the best uterine remedies I have ever encountered. I must confess, however, that I was prejudiced against it at first (as I am against proprietary medicines in general), but hearing it recommended by a physician of eminence and a

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gentleman for whom I entertain the warmest personal regard, I was led to give it a trial. In a number of other cases besides those related here, I have had most excellent results from dioviburnia. In cases requiring an antispasmodic I have found it of especial benefit. In some cases I prescribe it alone, but generally in combination with other remedies.

D. S. MADDOX, M. D.,
Coroner of Marion County, Ohio.

S. L. REED, M. D., Highland Park, Ky., October 28, 1896, writes: Have only time at present to copy notes in reference to case in which I used Bromidia. Was called suddenly early on morning June 10th to see Mrs. McG. Patient had been under treatment of Dr. R., who had been called, but failed to answer. Found patient suffering with acute mania very violent and destructive. On questioning family found patient had delivered herself four days previous of a three months' fœtus. Since that time patient had been receiving enormous doses of morphine, with no apparent result. As patient was beyond control improvised a straight jacket of her husband's sweater and bicycle belt. Ordered half ounce Bromidia (Battle & Co.) every half hour until quiet. In two hours patient was sleeping. Patient continued to receive Bromidia whenever indicated, along with other treatment, and in a few weeks was apparently well, although Dr. R. still has her under observation. This will show the superiority of Bromidia over morphine, especially in cases with head symptoms.

I have had moderate success with Iodia, but could sing the praises of Papine in several columns if I had the time.

The Modern Treatment of Diphtheria in Private Practice.

BY W. A. WALKER, M. D., NEW YORK.

On the evening of September 14th, a little girl called at my office with a request that I should visit her sick brother. The public schools opened their doors on that day, and Johnny McD., although complaining of feeling sick, was sent to mingle with the hundreds of other school children.

An inspection of the case showed all the clinical symptoms of diphtheria, with a muco-purulent discharge from the nostrils so fetid that the odor filled the room. The examination completed, the mother anxiously inquired: "What is it?" "It is a case of diphtheria," I said; and her face blanched, her voice trembled, as she said quietly: "I know what that means—I have buried two children with that."

On the 19th the father called at the office to say that Johnny could not be kept in bed, and they thought he was well.

In a skeleton way this illustrates the results of treatment with anti-diphtheritic serum, and stands in bold contrast with the drug treatment with the bottles of medicine, the cruel swab, the sleepness nights, the futile attempt to force food and medicine, the onset of secondary infection, and death or a tardy convalescence.

The uniform success which I have observed, and had in my own practice, has convinced me that the treatment of diphtheria with antitoxin is a great advance in therapeutics, and it is my impression that critics who have condemned this treatment have in most instances either observed only hospital patients, or have not persisted in the treatment, or perhaps have not had a fresh and reliable serum, or have not used it early enough.

From the standpoint of a general practitioner I confidently expect to cure any case of diphtheria in private practice seen within forty-eight hours of the onset of the disease.

Take, for instance, a typical case: a previously healthy child, six years of age. The family physician is called in and finds the following conditions: general depression, face pale, pulse accelerated, temperature about 101° F. Inspection of throat shows general diffuse redness, with the characteristic deposit on one or both tonsils. This peculiar deposit once seen is not readily forgotten; the high fever, flushed face, and rapid pulse usually seen in pseudo-membranous tonsilitis are absent; the margin of the inflammatory process is usually sharply defined in diphtheria and not in tonsilitis. In follicular tonsilitis the leading symptoms are: intense congestion of the tonsils, with small discrete white patches, pulse and temperature high.

If, however, the symptoms are not well defined and the differential diagnosis cannot be clearly made, we should give the patient the benefit of the doubt and a dose of anti-diphtheritic serum administered at once. Then a culture should be made to verify the diagnosis. If I believe the case to be diphtheria, or have a reasonable doubt as to the diagnosis, I use the antitoxin whilst waiting for the report from the bacteriologist. If the case turns out to be tonsilitis, no harm has been done, as I consider a fresh, reliable serum, properly administered, devoid of danger.

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Given, then, a case where the diagnosis of diphtheria is clear, I give as quickly as possible either 1,000 units or 1,500 units of the serum. The attendant is instructed to keep the throat clean with a bichloride solution of 1 to 5,000; or a solution of permanganate of potash may be used, 1 to 4,000, if the attendant is not a trained nurse. With a young child, difficult to manage, it is best to inject the solution into the nostrils; in older children a spray can be used in both the nostrils and throat more advantageously.

At the end of twenty-four hours I expect to find the membrane beginning to shrivel and curl up at the edges. In any event, however, I administer a second injection at this stage of the disease, and in a majority of instances this is sufficient. I advise very strongly that the second injection be given in all cases where the diagnosis of diphtheria is clear. I do not expect a cure from one injection, and rarely omit the second. If the symptoms do not indicate the beginning of convalescence at the end of forty-eight hours, I give a third injection. In fact, I would use a fourth injection if it seemed advisable at the end of another twenty-four hours, but I think this will rarely be found necessary.

I have not used anti-streptococcic serum, but I am convinced that in cases in which the treatment has been delayed, or in cases showing the streptococcic infection, proven by bacteriological investigation or from the peculiar red zone of inflammation which begins to spread from the margin of the diphtheritic process, the anti-streptococcic serum should promptly be used. Not only would I do this, but in cases of severe acute disease in the throat, which present all the symptoms of diphtheria, but where the bacteriological report does not confirm the diagnosis, I would resort to the anti-streptococcic serum. In fact, if I should have a case of diphtheria in which the membrane does not begin to peel up by the end of the twenty-four hours following say the second injection of antitoxin, I will use the anti-streptococcic serum.

The importance of a fresh, reliable, highly concentrated serum must not be lost sight of, and as I have full confidence in our American products I do not use imported serums. I have used several serums, but have been best satisfied with the effects of that sent out from the biological department of Parke, Davis & Co. I heartily approve of the way this firm now puts up the serum, in bulbs instead of in bottles. It is not only highly concentrated, but, being hermetically sealed, should keep indefinitely. It is put up in bulbs of so many units, 250, 500, 1,000, 1,500; and, each bulb being a dose, there is no temptation to use a serum that has been exposed to the atmosphere.

As to the medicinal treatment, I do not give any drug with the idea of influencing the course of the disease. I treat the conditions as they arise symptomatically. If I have evidence of the absorption of poisonous secretions, and a coated tongue, I give calomel tablet triturates, ¼ grain every hour, until the bowels move freely. Alcohol is rarely needed in cases receiving the serum treatment, especially if it is used early enough, whereas, under the old treatment, when we were so apt to find profound toxic symptoms, alcohol was more often needed. It is perhaps well to state here that I prefer fluid nourishment, principally milk, during the course of the disease.

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Quid Pro Quo.

The Patient's Wife:—Isaac, der doctor say dot if you vould be cheerful undt haf some gonfidence in him, dot vould be half der cure.

The Patient:—Vell, if I do dot, would he make a feety per cent. reduction in der bill?—*Puck.*

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MILWAUKEE MEDICAL JOURNAL.

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MILWAUKEE, WIS., DECEMBER, 1896.

DR. WM. SCHORSE has been quite seriously ill as the consequence of blood poisoning. A crippled finger and badly shattered health is the result, although he is gradually improving. The doctor has been an indefatigable worker for many years, making more calls than any other man in the city. Had he not been blessed with a magnificent constitution he would have succumbed to overwork long ago. As it was, reduced in strength by close application, he was ill-fitted to resist infection. As the result of this his field of usefulness is of necessity limited, his life was endangered. But he is only a type of a large class of physicians who are daily sacrificing themselves to duty, giving no heed to their physical conditions, but freely giving of their lessened strength to all—to many utterly without appreciation of the sacrifice. And yet, after all, that life is not worth the living which does not contain some sacrifices and it is a question whether he, who day by day, gives of himself for the benefit of others, does not get more out of life than he whose work does not involve distinct sacrifices. Life to be wholesome must contain sacrifices, and that is not life, simply an existence, where duties are evaded. How full, then, is every physician's life, for it is made up of sacrifices of strength and comfort that duty may be performed.

* * *

DR. GUSTAV HOYER is spending the winter in Berlin, having settled there as offering more opportunities for study and observation than other European centers. The doctor, too, has been a hard worker, and to the trials of practice has been added for the past two years the harrassment of defending a malpractice suit. We are pleased to be able to say that the suit has finally been withdrawn. * * There would be fewer malpractice suits if physicians were to cultivate each other's acquaintance more. For some unexplained reasons we are, as a class, suspicious and jealous of one another. Fancied encroachments upon or disregard of our supposed rights in a case are allowed to go unexplained; irresponsible gossip is listened to; brooding increases the breach and fosters the desire for retaliation; the opportunity comes, as it does to all of us, and, unless one is imbued with the spirit of the golden rule, a malpractice suit is on, with all of its worries, engendering the worst traits of one's character. It requires two doctors for the bringing on of a malpractice suit and the one who aids in bringing it about is the one who most suffers if he have any regard for the respect of his fellows.

* * *

MILWAUKEE physicians are probably no worse than others, but it certainly is to be regretted that the spirit of brotherly love does not to any great extent abound among them. They are suspicious of one another; they lend the willing ear to gossip and are not free from gossip themselves. The result is cliques against cliques and factions within the cliques, thus immeasurably lessening the profession's power, for good and chances for individual advancement. With a united profession would come power, and this power, rightly wielded, would redound to the welfare of the city and commonwealth and to the glory of the profession.

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THAT there should be cliques and factions in the profession is to be greatly deplored, but how to unite the antagonistic forces is a problem hardly to be solved until "the lion and the lamb shall lie down together and a little child shall lead them." Certain it is that until we can be governed by childlike simplicity and trust in our dealings, one with another, there will be little hope of improving the present status. * * Practice seems to have in great measure resolved itself into a system of "give and take;" giving hard blows when opportunity offers and taking cases wherever one can. This is absolutely wrong, and if we would but stop to consider in what an unfavorable light we place ourselves before the laity by so doing, the system would be relegated to the limbo of discarded evils. The people are quick to discern the pretensions of a man and are quicker to distrust one who seeks to belittle his fellows. Honesty and common courtesy should be indulged in, even from motives of pure selfishness. * * If we could or would all take the trouble to get at the solution of the many petty matters which are the sources of so much ill-feeling and bitterness we would often find the black storm cloud to dissipate into the pleasant morning mist and our erstwhile incarnation of all that is mean and contemptible to be a royal good fellow—physicians are all that—with hopes and aspirations like unto our own and a heart yearning for professional sympathy even as our own. We must needs know men to appreciate them, for their faults loom up large through the mist of distance.

Old Diogenes went through the world with a lantern seeking for an honest man, but failed to find one.

There is nothing very strange in that, for his feeble lantern light served only to distort the good and magnify the evil of all those upon whom it shone. We, in our search, should carry the light of love and good-fellowship, which would reveal to us all that is good and noble without hiding the faults. Thus could true values be ascertained and the result would be satisfactory. * * It would seem eminently fitting now while the year is dying and there is brought into our minds and hearts something of the solemnity and reflection which attends its passing away, that there should be nothing of malice in our thoughts towards our brothers, nothing to mar the glad welcome we are so soon to give the new. In the bright New Year to which we look forward with so much hope, let us put away all jealousies, all evil speaking, "in honor preferring one another."

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REPORT of the Special Committee of the Medical Association of the District of Columbia on the Hospital and Dispensary Abuse in the City of Washington, D. C.

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Selections.

Serum Therapy.

By JOHN M. LANGSDALE, M. D.
Chairman Committee on Progress of Medicine, Kansas City, Mo.
Read before Missouri State Medical Association, Sedalia, Mo., May, 1896.

(Continued from last month.)

If there is an albuminuria directly referable to the antitoxin, it is simply albuminuria without evidence of danger to the kidneys.

Many writers claim the influence of antitoxin is favorable on the heart, while others have found, with the improvement of all other symptoms, the heart may remain weak and a cause for much uneasiness.

Baginsky finds that actual death from heart failure is far less common in cases treated with serum than others.

Some claim that paralysis following the use of the serum is more common than in other cases. This, Dr. Welch thinks, is doubtful, and that if it is so, may be due to the recovery of a larger proportion of cases. He thinks the antitoxin is the most beneficial in progressive fibrinous diphtheria and especially in the prevention and cure of laryngeal diphtheria. In septic diphtheria the serum need not be expected to do any good.

If there are unpleasant effects following the injection of serum, they are probably due to the serum as such, and not to the antitoxin. He says the essential harmlessness of the serum has been proved by over a hundred thousand injections. His principal conclusion is that antidiphtheritic serum is a specific for diphtheria, and that every physician should use it.

Dr. Winter calls attention to the possible globulicidal power of antitoxin serum, claiming that "horse serum dissolved human blood corpuscles;" but this is disproved by Dr. J. S. Billings, Jr., *vide* very careful experiments lately published.

Meltzer, well known for his physiological work, denies this. He also says: "All statements as to the detrimental effects of heterogenous blood have reference only to the intravenous transfusion with the blood of another species; as yet no one has ever raised the contention that the subcutaneous injection of foreign blood showed globulicidal effects."

M. Mongour says that the amount of urea is doubled by the use of the antidiphtheritic serum; that the hyper-secretion of urea is due solely to the serum, and only lasts about twenty-four hours after the injection.

C. V. Kuhlden found, after numerous experiments on guinea-pigs and rabbits, that diphtheria antitoxin in many cases produces an eruption on the skin.

Froher, of New York, in speaking of these eruptions, says: "Some look like scarlet fever, some appear like measles, most of them look like erythema, seven cases looked like urticaria, nine cases showed purpura hæmorrhagica." He believes that the liability to eruptions is increased in proportion to the increase in the amount of antitoxin used. Inflammation of the joints sometimes follows the use of antitoxin, and is very troublesome. Septic conditions are often encountered during the course of true diphtheria, but there can be no question that the serum used in its treatment has caused septicæmia in some cases. It has produced fatal septic conditions when used as an immunizing agent where no diphtheria ever existed; but the sepsis must be charged either to bad serum or to septic technique in injecting it.

In the *British Medical Journal* of March 2d, 1895, the following case is reported: "A child, aged three, had slept in the same bed as her sister, who had diphtheria and had been successfully treated by serum. The parents insisted that the child should be immunized, and accordingly 2 c. c. of Behring's No. 1 were injected. The next morning the child was depressed. On the following day she had fever and violent pains in the lumbar region. The urine contained albumen. On the next day the temperature rose to 103° F.; petechiæ appeared on the legs; and on the fourth day the child died."

Dr. Winter reported several similiar cases at the meeting of the Academy.

Dr. Knight reports, in the *North Carolina Med. Journal*, the following case:

"Bertha Valentine, a stout, well-nourished girl of sixteen years, asked me to examine her throat. There were a few spots occupying the crypts of the right tonsil; other functions were normal. Local applications of powdered sulphur were used for one day. On March 28th (next day) the temperature was 101°, nausea was present, and there was a grayish exudate over both tonsils extending upward to the pillars of the fauces, and backward upon the pharyngeal wall. Bacteriological examination showed an almost pure culture of the Klebs-Loeffler bacillus. At 3 P. M. of the same day she received 10 c. c. of Behring's Serum, No. 2. The injection was

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made at the left lateral aspect of the abdomen. The skin, hands and syringe were cleansed with a 1 per cent. solution lysol. The antitoxin was obtained directly from the agent, and was marked "Operation 159, examined 30, filled January 31st." About five minutes after the injection the girl complained of tingling and became restless. This paræsthesia was immediately followed by a slight general convulsion. This mild spasm was followed at once by general tonic and clonic convulsions, accompanied by marked opisthotonos cyanosis and absolute cessation of breathing. The pulse was rapid, small and forcible. The time in all was, perhaps, three minutes from the first sensation of tingling till death."

Dr. Halderman of Ohio administered a prophylatic dose of Behring's serum under the scapula of a five-year-old boy in a family where diphtheria had not yet appeared, and was preparing to inject another child when the mother noticed the boy's lips puffing and called the doctor, but by the time he reached the child it was dead.

A most tragic case occurred in Berlin recently in the family of Dr. Langerhans, whose twenty-one-months old child died soon after receiving an immunizing injection of anti-diphtheritic serum at the hands of its father. The servant, on account of whose illness the injection was made, proved later not to have diphtheria.

The statement is made by many, that if the patients live thirty-six to forty-eight hours after receiving the diphtheria antitoxin they always get well. This I do not believe statistics will bear out.

I assisted in the treatment of a little girl, aged four years, who was taken with a tonsilitis and fever on Monday, November 5th, '95, but was up most of the day. On Tuesday a very slight formation of membrane was noticed on each tonsil. This was a signal for alarm, notwithstanding her fever had gone down and she seemed to be feeling much better.

The attendants believed the trouble was not serious, that it was a follicular tonsilitis, with an inflammatory exudate on the tonsils. Iron and glycerine were given, and the throat sprayed out with peroxide of hydogen. By night most of the membrane had disappeared, but re-formed the next day. It was then thought she had diphtheria, and we gave an injection of antitoxin. The following day there were symptoms of a general septic condition—purpuric spots appearing on the body and in the throat. Another injection of antitoxin was given; from this time on the purpura hæmorrhagica developed rapidly, bloody serum ran from the nose and throat, and she vomited up large amounts of bloody serum. Every tissue of the body seemed to be bleeding. She died on Friday, November 9th, having actually bled to death two days after receiving the first injection.

The diphtheritic membrane never extended beyond small patches on the tonsils and uvula. I am fully persuaded that the blood was disorganized by the horse serum injected, and that the septic condition followed by purpura hæmorrhagica, causing death, was due solely to this cause. I would not say that every preparation of antidiphteritic serum would have resulted in the same way; I am rather inclined to believe that the fault was with this special preparation of serum, and that had serum properly prepared and preserved, or none at all, been used, she would to-day be alive.

Dr. McDonald of Kansas City had a parallel case at the same time, which also resulted fatally.

I have cited these cases, not for the purpose of discouraging the use of antitoxin in diphtheria, or with any intention of proving that it is not a valuable remedy in this disease, but to show that it is not the harmless agent that some would have us believe; and that there are cases in which its use is contraindicated; that as yet we are unable to determine which cases should not be thus treated and that there are preparations in the market which are *toxins* instead of *antitoxins*.

Let us look at the other side for a moment. In speaking of the report of the "Collective Investigation Committee," Dr. Behring says that the mortality reported was 9.6 per cent. higher than it otherwise would have been if the cases had not been selected wherein the prognosis was bad. He said that the most convincing reports came from Giessen and Amsterdam, where the mortality in cases where tracheotomy had been performed had been reduced from 53 to 15 per cent.; and that the cases requiring tracheotomy had been considerably reduced by the timely use of large doses of serum, which prevented the spread of the disease to the larynx.

In a letter to the writer, bearing date of April 17th, '96, Dr. L. Emmett Holt of New York says: "I am a strong believer in the efficiency of the new treatment, and the sentiment of New York to-day is overwhelmingly in its favor; I know of but one man of any prominence who speaks or writes against it. The latest results have been something we have never seen before in the history of diphtheria. The most striking

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benefit is observed in laryngeal cases. In these the mortality has been reduced from about 65 per cent. to 38 per cent. The latest improvements in the manufacture of serum by our New York Board of Health, by which we are able to give 400 antitoxin units in 1 c. c. of serum is a great advance. We can thus administer the necessary quantity of the antitoxin without giving in any case more than 5 c. c. of the horse serum. With this improvement, rashes are less frequent and all other unpleasant symptoms have nearly disappeared. Many men who have been doubtful regarding the value of antitoxin have within the past three months come out strongly in its advocacy."

In a letter bearing the same date, Dr. Chas. H. Knight, of New York, says: "I am just concluding a very satisfactory experience in a typical case of diphtheria, the diagnosis being confirmed by the microscope. The membrane involved the tonsils and the posterior pharyngeal wall. A single injection of Behring's antitoxin, No. 2, on the second day was followed by the complete disappearance of the membrane in forty-eight hours, and gradual subsidence of constitutional disturbance, the bacilli persisted for more than a week, no unpleasant effects were noted.

"Personally, I am not familiar with any objections to serum-therapy, and am inclined to suspect that such accidents as have been reported may have been due to careless technique or imperfect fluid. Moreover, I am confident that many phenomena ascribed to the serum are not infrequently seen long before the days of antitoxin. It seems to me to be a valuable agent when properly prepared and administered early."

Dr. J. M. Allen, of Liberty, reports twenty cases of diphtheria treated with antitoxin, in none of which were there any unfavorable results. At one time he had used antitoxin in a family of eleven children, two men and two women, living in a house of only two rooms in the Missouri River bottoms. Two of the children had died before he was called, and two others had been afflicted with the disease forty-five hours. In two days the disease had abated and recovery was established. "Twenty-five minims of antitoxin were injected three times a day."

A girl of ten years who had been under the influence of the disease twenty-four hours was given forty minims twice a day. The membrane disappeared in six or seven days—recovery. "This was a severe case."

Another child of six years in the family was taken, but was treated with antitoxin and never went to bed. Immunity was obtained for the other children exposed, by injecting them with the diphtheritic serum.

Dr. W. H. Park in a paper read before the New York State Medical Association says, in the table constructed by Welch, it was found that in 5,777 cases of diphtheria treated with antitoxin in hospitals, there was a mortality of but 18.7 per cent.

These same hospitals gave an average mortality of 43.6 per cent. during the years preceding the use of antitoxin. This he said was too great a difference to explain by any remarkable lessening of the virulence of diphtheria all over Europe, at the very moment of commencing the use of antitoxin, nor could it be explained on the supposition that many more cases were sent to the hospital than formerly.

In private practice, Dr. Welch summarized 663 cases with a death rate of only 6.6 per cent. Statistics showed invariably a less proportion of laryngeal cases required operative interference than before antitoxin was used. And in all the hospitals the mortality was reduced in cases requiring operation. In over 1000 cases the mortality was less than 38 per cent., whereas before the use of antitoxin the mortality was over 70 per cent. In New York for the past four years the mortality in all cases reported had been over 34 per cent., while during the past nine months the mortality was 17 per cent.

Dr. Park believed that if antitoxin had been used in all cases of diphtheria, the mortality would not have exceeded 10 per cent. During the past nine months at the hospitals he had seen no serious effects on kidneys, heart or nervous system, which could be attributed to antitoxin. Dr. Park believes fully in the immunizing power of antitoxin, and cites the case of the Reception House of the Juvenile Asylum, where four cases of diphtheria developed in the week ending April 11th; on the following day the children, numbering about seventy, were injected with from 200 to 400 units, after which no case occurred, except an attendant and an engineer who handled the clothes of the diphtheria children, and who had not been immunized, developed the disease.

M. Monod, of Paris, carefully analyzed the returns from 108 towns in France of 20,000 inhabitants or over, embracing a population of 8,150-

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000, and found a remarkable uniform decrease in the number of deaths from diphtheria.

The average number of deaths from diphtheria in the first six months of the years 1888 to 1894 was 2,627. The deaths for the same period of 1895 was 904—a decrease of 65.6 per cent. The doctor says this sudden decrease of over one-half, which cannot be explained except that it was due to serum therapy, speaks eloquently for the treatment. The decrease was especially marked in the larger cities.

The following table gives a detailed comparison of the two periods:

Months.	Number of deaths from diphtheria in 108 of the larger French cities.		Decrease.	
	Average 1888 to 1894.	1895.	Number.	Per cent.
January.....	469	205	264	56.2
February	466	187	279	59.5
March.....	499	155	344	69.3
April.....	442	160	282	63.8
May	417	113	304	72.5
June.	333	84	249	74.5

Professor Virchow said, "All theoretical considerations must give way to the brute force of these figures." The figures referred to by Virchow were the statistics of the treatment in the Kaiser and Kaiserin Frederick Hospital of Berlin, when during a given period, 533 cases of diphtheria were treated, 303 of which were treated with serum, with a mortality rate of 13.2 per cent.; the remaining 230 cases were treated without serum, with a mortality rate of 47.8 per cent. During the months of June and July, when nearly all were treated with serum, and the mortality rate was 12.7 per cent., "suddenly," Virchow says, "the supply of serum ceased, as unfortunately the very horses from which the serum was taken died. The old methods of treatment had again to be resorted to, and the results were 109 cases, 55 deaths in seven weeks, a mortality rate of 50.46 per cent. A supply was then obtained from another source, and during the next six weeks 81 cases were treated, with 12 deaths, a mortality rate of 14.81 per cent." These are the figures the "brute force" of which compelled Virchow to recommend the serum.

Dr. Lane, of Leavenworth, Kansas, stated to the writer that he had treated about twenty-seven cases of diphtheria during the last twelve months without the use of antitoxin, and had not had a single case die. The diagnosis in these cases were confirmed by bacteriological examinations, showing the Klebs-Loeffler bacillus in each case.

Dr. J. E. Sawtell, of Gypsum, Kansas, also, stated to the writer that he had treated twenty cases of undoubted diphtheria, without the use of antitoxin, with but one death during the last year.

The statistics in Russia, according to Filatow, show a mortality of 18 to 19 per cent. under antitoxin treatment.

The mortality statistics in various locations differ widely, but there was no less difference before antitoxin was used.

From all the statistics at hand, and the opinions of the leading observers, I conclude that antitoxin has some specific curative power in diphtheria simple and uncomplicated; that if a case of Klebs-Loeffler bacillus diphtheria is complicated with streptococcus it would be useless, and possibly dangerous to use diphtheritic antitoxin, unless local applications destructive to the streptococcus are successful; that the immunizing power of antitoxin has not been established beyond a doubt; that in some cases of diphtheria antitoxin may be contraindicated, but that we are as yet unable to discriminate; that as an immunizing agent antotoxin is very dangerous, and I believe should not be used in any case before diphtheria is established; that all antitoxin on the market is not reliable, and some, if used, will cause death.

I believe that the production of antitoxin should be under government control and inspection.

I wish to acknowledge my indebtedness to the following journals and writers for much of the valuable matter in this paper: "British Medical Journal," "Journal American Medical Association," "Pediatrics," "New York Medical Journal," "Therapeutic Review," "North Carolina Medical Journal," "Philadelphia Polyclinic," "Bulletin Johns Hopkins Hospital," W. H. Welch, M. D.; W. H. Park, M. D.; Chas. H. Knight, M. D.; L. Emmett Holt, M. D.; G. E. Grieger, M. D.; Paul Gibier, M. D.—*Langsdale's Lancet.*

Some Professional Experiences at Home and Abroad—With Pathological Specimens.

By Donald Maclean, M. D., Detroit, Mich.

Through the courtesy of the profession of Salt Lake City, Utah, during a brief visit to my brother, Dr. A. C. Maclean, of that place, in February and March last, I am able to present in the following brief paper a few practical experiences and observations which I venture to hope may prove interesting to this section.

On the evening of the second day of my ar-

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rival at the metropolis of the wonderful and historic valley of the great Salt Lake, I was honored with an invitation to the semi-monthly meeting of the Utah Medical Society, which I accepted. It was a large meeting, but I am told not unusually so. The paper of the evening, by Dr. A. C. Maclean, consisted of a report of a number of interesting and successful cases in his own recent experience, including lithotomy, appendicitis, gall-stones, etc., with specimens.

The discussions were, in my judgment, very able and instructive, as much so as those of any association I have ever had the pleasure of attending.

This is hardly the time or the place to undertake a topographical or climatological account of Salt Lake City, but I may be permitted to state, in passing, my opinion that if there is a spot anywhere in this or any other land which possesses all the requirements for an ideal health resort; if there is a spot anywhere whose climate, soil, scenery, and surroundings generally, are suited to the accomplishment of phenomenal results in the treatment of medical and surgical cases, it is this City of Salt Lake.

Possibly, the brief statistics of my own operative efforts there when presented to you, as they will be in a few moments, may lead you to think that they fall somewhat short of constituting a practical endorsement of the eulogistic opinion which I have just expressed. "But one swallow does not make a summer," and, at least, an occasional disappointment must be acknowledged as the manifest destiny of every individual who strives to save life or relieve suffering by the use of surgical methods. Not only so, but the cases I have to present for your consideration do not belong to the class in which the factors of climate and surroundings could be justly charged with any appreciable share of responsibility.

Before I had been many hours an inmate of my brother's home, I was asked by Dr. C. E. Bower to see with him the following case, which I will describe as briefly as possible.

CASE I. *Nephrectomy for Large Cysts.* C. M. M., aged 22 months, a little girl, the only child of perfectly healthy parents, boasting an excellent family history. The child had been quite well in all respects until within a period of six months. During these six months she had failed a good deal in health and strength and had become much emaciated. A gradual, but pretty rapid enlargement of the abdomen had appeared, until the walls of that cavity were distended to their utmost capacity by an intra-abdominal growth of some sort. The latter, on careful examination under chloroform, appeared to be obscurely cystic, and we ultimately arrived at a diagnosis of cystic kidney (left side), with an unpleasant suspicion of a sarcomatous origin. An exhaustive consultation and consideration of the case, together with a candid presentation of our diagnosis and apprehensions to the parents, resulted in my being urged to give the poor little patient the slim, but only chance for her life which an abdominal nephrectomy afforded. The operation was performed on the morning of March 9th, in the elegantly and completely appointed operating-room of St. Mark's Hospital, a very attractive institution, affording accommodation for at least one hundred patients. Drs. Bower, Hughes and A. C. Maclean afforded me most efficient assistance. Chloroform was administered very carefully by the resident physician of the hospital, and we had also the active and intelligent aid of a staff of trained female nurses.

The tumor was found to consist, mainly, of an immense cyst which extended from the diaphragm to the floor of the pelvis. Its starting point was distinctly traced to the suprarenal capsule. Intestinal and mesenteric, as well as parietal adhesions were very extensive and tedious to deal with; but the most dangerous complication was the existence in the cyst of an immense collection of fluid composed very largely of blood. The evacuation of this fluid by the opening of the cyst was followed instantaneously by a very alarming amount of shock. The tumor was removed entirely, the hemorrhage was arrested, the abdominal cavity douched with very hot water, and the incision closed with all possible expedition. Everyone present, doctors, nurses and friends, felt that a supreme effort had in all earnestness and good faith been made to save this poor little life from rapid and painful destruction. Unfortunately, we were all very soon convinced that the effort had been made in vain so far as saving the life was concerned, as she only continued to breathe for a few minutes after having been removed from the operating table, notwithstanding the fact that every method of stimulation had been used from the beginning to the end of the operation.

I here present the specimen, or, at least, the essential portion thereof, from which the fundamental structure of the morbid growth will be readily recognized, and microscopic examination

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confirms the view originally adopted on this point.

While deeply regretting the fatal result, I have every reason to believe that no one in any way connected with the case felt otherwise than thankful that the attempt had been made. The age and condition of the little patient, together with the enormous size and the pathological character of the tumor and the extensive complications, will, I think, be recognized as a perfectly satisfactory explanation of the failure to achieve success in this case. Nephrectomy in children of tender age is seldom demanded except for sarcoma, and, in my opinion, the ratio of even partial, *i. e.*, temporary, success, will always be very small. And still the temptation to try to save the young life, or even temporarily to afford relief of suffering in this class of cases, will always, as in the present instance, be extremely hard to resist.

As a sort of offset to this unsuccessful effort in the department of renal surgery, I venture to report here two additions to the list of cases which I have in times past placed on record.

CASE II. A. C. C., aged 36, male. The patient had suffered all the long and painful train of symptoms which pertain to suppuration of the male genito-urinary tract for a period of three years before coming into my hands. My friend, Dr. Imrie, had given him his best attention for nearly a year, and at last was kind enough to ask me to see him. He was a stout, obese man, and had generally enjoyed good health previously to his present ailment. I found him suffering very severe pain, especially in the region of the left kidney, with night sweats, chills and great prostration. He had lost weight to the extent of forty pounds. I first examined him, along with Dr. Imrie, on March 14, 1894, and on March 16th, assisted by Drs. Tibbals and Imrie, I removed the left kidney *in toto*. The peculiar short, stout conformation of the patient made the operation more than ordinarily difficult. I found it impossible to ligate the pedicle with perfect safety in the depth of the cavity, and, therefore, it was additionally secured by long and strong catch forceps, which were removed without further trouble at the end of thirty hours. No kindey tissue was left. The recovery was complete and the patient has enjoyed perfect health for many months, and has since regained all his lost flesh with a reasonable rate of interest in addition.

In further illustration of this subject of kidney surgery, I wish to add briefly the following cases:

CASE III. Mrs. B., aged 26, Detroit. This patient had suffered for years from severe constitutional symptoms, fever, emaciation, loss of appetite, chills, etc., together with obscure pains in the back. Tuberculosis was suspected and a very serious view of her case was taken by her physician and friends. A day or two prior to my departure for Salt Lake City, in February last, I was asked to see her, and on examination, suspecting suppuration of the kidney, I had her removed to the Woman's Hospital in Detroit. Next day, with the assistance of Drs. F. M. Brady, Florence Huson and F. B. Tibbals, I made a free incision into the kidney, having previously positively demonstrated the presence of pus with a large-sized exploring needle. An immense quantity of pus was evacuated, and on introducing my finger into the abscess cavity I at once detected and removed this large-sized calculus. (Specimen exhibited.)

On further examination I was fully convinced that, notwithstanding the immense abscess cavity, a considerable amount of sound kidney structure still existed. Furthermore, my investigations served to impress the belief that adhesions existed of sufficient extent and importance to render entire removal of the kidney, in the exhausted condition of the patient, an unduly hazardous procedure. The cavity was, therefore, thoroughly douched and then packed with iodoform gauze. Next day, leaving her to the efficient care of Dr. Brady, I took my departure for the West. On my return, six weeks later, I found our patient safe and well in her own home, with an addition to her former weight of something over twenty-five pounds.

The two latter cases seem to me to afford and impress at least one important lesson, namely: When it happens that the kidney is the seat of our endeavors to carry out the fundamental law of surgery to evacuate pus wherever and whenever it is possible, we have at least two widely different courses to choose between, viz.: nephrotomy and nephrectomy. And while the latter is more radical, and if successful, much the more satisfactory procedure, still the former, by reason of its vastly greater ease, simplicity and safety, must, in the large majority of cases, be the operation of our choice. But the flight of time prevents any further study of these cases and their lessons on this occasion.

I now wish to present a pathological specimen of considerable surgical interest obtained as a

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part of the results of an operation performed by me at St. Mark's Hospital, in Salt Lake City, during my stay in that delightful vicinity, and the following history will explain the pathological specimen, and the specimen will explain the case.

CASE IV. J. H., aged 23. About nine months ago the patient received a severe injury to his right elbow-joint. The most serious feature of his injury consisted in a transverse fracture of the olecranon process, with very extensive contusion of the surrounding soft parts. After a long and very judicious series of efforts, including fixation with silver wire, the olecranon refused to unite. More than that, when my attention was called to the case, a very bad state of affairs obtained in the region of the injured articulation. Pus had burrowed in every direction, great swelling extended over the lower third of the arm and over the upper third of the forearm. The patient suffered intense pain at all times and especially during the terrible ordeal of the dailying dressing. His general health had suffered severely and he was greatly emaciated. On the day following that on which I first saw him, by the request of his attending surgeon, Dr. Hughes, I performed resection of the elbow-joint, and thereby obtained the specimen here exhibited. The relief to all the distressing symptoms, local and general, was immediate, and the progress towards complete recovery has been entirely uninterrupted.

You ask me what is meant by the phrase "*complete* recovery?" I reply, *perfect flexion, extension, pronation* and *supination*, with complete restoration of the strength of the arm. Anything short of this result cannot be classified as *successful*. In my own experience I am happy to say that I have been able to record many cases of complete success, and I have exhibited several to this association. At the same time it must be admitted that a stray case here and there in my practice has had to go into the column headed "partial success," and of these more or less of anchylosis and consequent limitation of movements represented the extent of the failure. The indifference or timidity of the patients in the matter of the after-treatment has, usually, been responsible for whatever shortcoming we were compelled to regret in the ultimate result.

Just a word as to the after-treatment, and I consider it a most important word. It is this: *Commence passive movements at the earliest possible moment, and not under any circumstances later than the third day after operation.* And a last word, not less important: *Avoid all complicated and oppressive splints and dressings*, and trust to the most simple, elementary and comfortable.

CASE V. Mrs. C., aged 29, the mother of four children, family history good. I venture to trespass a little further upon your patience to report this case (which shall be done with all possible brevity and conciseness), because it is, in my opinion, a most complete one (especially from a pathological standpoint). Mrs. C. had for a few months been suffering from a pretty extensive complication of morbid conditions, and had been during that time under the care, or, at any rate, the advice of a former pupil of mine, Dr. James E. Hosmer, of Ogden, Utah, as well as that of her regular attendant, Dr. Leason, of Dillon, Montana.

My visit to Salt Lake City led to her being sent to St. Mark's Hospital from her home in Montana. I found her suffering from alarming and obscure mental symptoms. She had lost the faculty of speech, and for the most of the time seemed to be in a profound stupor. She was unable to walk or even to stand on her feet, and there was also complete paralysis of the sphincters. The history, so far as it could be obtained, was one of pelvic import. On examination I found cervical and perineal lacerations of uncommonly aggravated character associated with prolapsus and ulceration of the rectum.

I and my professional confreres in the case were at a loss to determine whether or not the brain symptoms were direct and simple, or whether they might not possibly be reflex in character and dependent upon the aggravated peripheral lesions. After careful consideration we determined to take the more favorable view of the case and give the patient the benefit of the doubt. Consequently, after thorough preliminary treatment, I proceeded with the utmost care and thoroughness, to repair the lesions of the uterus, the perineum and the rectum. The operation was pretty well borne, although for the first thirty hours or so the patient lay in a pretty profound stupor. After that she roused up and gave every promise of justifying to the full extent our most sanguine anticipations. She recovered the power of speech, conversed with me intelligently, held out her hand and greeted me cordially every time I entered her room. When the time came for me to terminate my pleasant visit to Salt Lake City, I parted with her and her husband with the confident belief that complete success was to be the result of our efforts. I regret to say that in this

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we were disappointed, notwithstanding the fact that my operations were quite successful. Before long her former brain troubles began to return, and they gradually increased until, despairing of further benefit, she was carried back to her home in Montana. The following excerpt from a letter from Dr. Leason, dated May 27th, definitely closes the history of this remarkable case: "Mrs. C. died on the 16th inst. At the autopsy, in the left hemisphere was found a broken down blood clot in the corpus striatum near the anterior horn."

Reflecting over all this facts of the history, two questions at least, suggest themselves:

1. Could it be possible that the cerebral hemorrhage had been in any way brought about by the reflex irritation of the peripheral lesion?

2. Whether this was so or not, how is the great improvement in the cerebral symptoms which immediately followed the operation to be explained?

I do not attempt to solve these problems here and now, but I do maintain that the facts of this case furnish a strong argument in favor of the early and complete repair of the lesions of the uterus, perineum and rectum from which this patient suffered.—*The International Journal of Surgery.*

The Insane Diathesis—Illusions, Hallucinations and Delusions.

BY W. BROWN IRWIN, A. M., M. D., WERNERSVILLE, PA.

Superintendent of State Asylum for Chronic Insane.

Read before the Berks County Medical Society, Dec. 12, 1895.

No description of the general forms of mental disease would be complete without reference to that condition of mentalization called the insane diathesis. To describe it would be difficult, for we find few cases of this condition alike, and its special manifestations are measured only by the differences in human faculties, and are as complex as the usual development of mental faculties can make it.

We find certain human beings characterized throughout life by certain peculiarities, eccentricities, originality in some useless way, oddities of manner, speech or dress, non-conformity to the rules that govern the great body of mankind, these things not amounting to mental disease in any correct sense, and yet being usually, by heredity, closely allied to it, or by evolution ending in it at last. Clouston says, "No one has lived long in the world without meeting in the flesh many examples." Some of these examples are strikingly original, a genius in some certain line of work or thought, yet in the ordinary affairs of life wanting in those traits that bring success. Nothing would be further from the truth than to say that all persons of the insane diathesis were geniuses or talented. Most of them are, on the contrary, a nuisance to their friends and useless to the world.

The insane diathesis is not always followed by insanity and those whom the world call peculiar may never meet with an exciting cause that will hurl them into an attack of mania or suicidal melancholia. That they possess a strong tendency toward insanity no one will doubt; yet no matter how strong that tendency may be they *may* live to a ripe old age, and have done much useful work, and enjoy to the end the reputation of an eccentric.

The only guide-board to the proper study of mental disease is a proper classification. To classify the subject properly is very difficult, since we have no absolute basis to begin with, no pathologic condition that we always find in a given class of cases.

Without taking any given form of mental disease let us review some of the characteristics that may be found in almost any case. The views taken by medical men and those held by the public in general regarding insanity are as diversely different as they well can be. The common idea of insanity pictures each patient as violently insane at all times, striking and abusing everyone who comes within reach, or as wildly and desperately suicidal, only seeking an opportunity to leave this earth and its endless round of trouble. If, on the other hand, the patient suffers from epilepsy he is not insane but only has "fits." Everything outside of these three divisions is generally designated by the word "crank."

Another aspect of the case is what might be called the legal, and this especially when relating to criminal cases, is narrow and incorrect. To be insane from this point of view the patient must be absolutely unable to tell the difference between right and wrong. The reason that we find fault with this view and say that it is incorrect is that we know that very many patients, in their most violent moments, know what they are doing and also know that it is wrong, yet are powerless to restrain themselves. When questioned after recovery their answer is, "I knew it was wrong, but I could not help it."

If a person's sanity is to be tested in court be-

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fore the ordinary jury and you cannot prove he has delusions, or a very bad family history, you might about as well give up the case. The mind of the ordinary juror will not be impressed with any of the finer points that may be entirely sufficient to professional men. Juries, yes and even some of the judges of our courts, have no doubt in their minds that very many who are now confined in hospitals and asylums are wrongfully deprived of their liberty and should be released. Not until some such calamity as the assassination of the mayor of Chicago, about two years ago, arises does the popular feeling verge toward the other extreme and the demand is made that all cranks shall be locked up. If we could discover some happy medium between these two extremes to which the public so often rush, it would be well.

But medical men and especially those of us who are in insane hospitals take a very different view of insanity and the insane than that held by those who have never seen the inside of such an institution and only draw their information from the highly colored and artistically decorated accounts found in the average newspaper. But leaving the views of the world at large to be what they may, let us look at insanity from our own standpoint, leaving the outside world to ponder over chains, torments and dungeons, to their hearts' content.

In the majority of cases of insanity we may detect the presence of either *illusions*, *hallucinations* or *delusions*. In some cases these may be very hard to detect and their detection may take a long time and careful watching, yet they will generally be found, while in some few cases they will be found wanting. Because we do not detect them at first must not be taken as proof-positive that they do not exist, for any really very insane people are acute enough to hide their delusions for long periods of time and allow them to escape only by accident.

Delusions are very often looked on as the only conclusive evidence of insanity, and it is true that such evidence is beyond question; still, illusions and hallucinations are very often good indications of morbid mental states.

ILLUSIONS. An illusion is a false perception of a real sensorial impression: or, in other words, it is a misinterpretation of a real sense impression. Perception is the distinct consciousness of special sensations originating in one of the senses of sight, hearing, touch, taste or smell.

In illusions the object that gives rise to the sense impression appears to the patient in very different characters from what it really possesses, and the aberration is by no means confined to any one of the special senses, but may be found in one or more than one at the same time. Perhaps the more frequent examples are found arising from the senses of hearing and sight.

By referring to the definition you will remember that an illusion was a *false preception*, hence, in order to the occurrence of an illusion, a real impression must be produced on the brain through some of the nerves of especial sense, but the impression appears in very different characters from those the object presents to the healthy brain. The nerves of sensation do their part faithfully and transmit the impression, but the brain being diseased, misinterprets the message. In most cases the impression comes from without and is carried to the brain by the nerves of sensation, yet, it may arise from one of the internal organs. For this reason we say that illusions are objective to the brain.

I, at one time, had a patient who, when lying in bed could see the ventilator in his room and firmly persisted that it was the picture of his father, and at the same time was much surprised that I could not see the resemblance. This is an example of an illusion of the sense of sight and, as in all others, we have a real sense impression, but a false perception.

Take for a further example a patient suffering from dyspepsia, who imagines he has a snake in his stomach, and you have an example of an illusion of wholly internal origin. A patient hearing voices commanding him to do or say certain things, where a rational being only hears the sound of the wind, is an example of an illusion of the sense of hearing. Examples of this kind might be multiplied indefinitely, but these few will suffice to illustrate my meaning.

The special external stimuli which are always present in illusions, and which act on the terminal organs of the special senses in the usual way, do not excite normal perceptions, as in health, but false perceptions that do not correspond to the external reality. So the ventilator in the wall appears to the patient as the picture of his father, and the noise of the wind is construed as voices of friends or enemies.

But the presence of illusions is by no means proof positive that the patient is insane. If he be able by his own will power and reasoning faculties to discover their falsity and correct them he must be considered sane. Thus if the patient to whom

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the ventilator appeared as his father's picture, can by his own reasoning power disprove the illusion, he must be considered sane in that respect.

In illusions, then, whatever their origin, should the patient's reasoning enable him to discard them as false and unsound, he must be considered sane in relation to them. This condition frequently happens with illusions, but unfortunately seldom with hallucinations.

I, at one time, had a patient who told me he saw mice and rats running over the floor. When told that such was impossible he said, "I know it is, but the flies that are really there are rats and mice to me." This is a good example of an illusion corrected and proved false by the reasoning power of the patient himself, and, of course, does not amount to insanity.

As in this case we may occasionally find a patient who can correct one or more illusions and leave one, out of which they cannot be persuaded by any amount of argument. The slight-of-hand performer and the ventriloquist calls his deceptions illusions, but such is not the case, for if our eyes and ears were educated sufficiently to follow the rapidity of motion and sound on which his deceptions depend, they would not deceive us at all. It has been related over and over again that thirsty travelers in the desert have experienced illusions of cataracts and the sound of rushing streams, when by thirst they have been so reduced as to be unable to correct, by their impressions of former experiences, what they see or hear, and they imagine that whatever reaches their sight or hearing must be the long-hoped-for relief of which they stand so much in need. It has been said that phantom ships have appeared to famished and exhausted sailors, and this has been poetized by Coleridge in his "Rhyme of the Ancient Mariner."

Whatever you may choose to call this state, it is a loss of the faculty of comparison, temporary perhaps, but nevertheless a loss, and in consequence the individual cannot be considered for the time being as of sound mind.

The form of illusion that attracts our attention most and is really very common is that of the sense of taste, which leads to the fear of poisoning and the refusal of food. Very many of the cases that require artificial feeding belong to this class, and as you can well suppose, such delusions entail a great deal of trouble and very materially detract from the patient's chances of recovery.

HALLUCINATIONS.—Hallucinations are false perceptions without any material basis. They are entirely new creations due to an abnormal condition of the brain itself. They arise when no impression has been produced on any of the nerves of sensation, and are equally independent of visceral sensations.

You may remember that when speaking of illusions I said that a *real* impression was necessary to their production, but such is not the case with hallucinations. They may be said to be *subjective* to the brain or baseless creations of the fancy. Like illusions, they may be of one or more than one of the senses, but are perhaps more frequent in those of hearing and sight.

Some authors have said that hallucinations of hearing are always a bad sign in insanity, and and much worse than those of sight, and give as their reason that the former occur more frequently in chronic, while the latter are more common in acute cases. I see no reason to discredit this statement and think it will be found to be correct in the majority of cases that come under our observation.

As an example of this state of mentalization we we might cite all those cases who hear voices or spirits where none exist and carry on conversation with imaginery friends or enemies. Very many of the patients who are constantly talking apparently to themselves are no doubt holding conversation with some imaginary friend and when questioned will answer evasively or not at all.

Another fact regarding hallucinations of hearing that is worthy of notice is that they are more common at night than during the day. We might expect that those patients who have "diffused hallucinations," or those who fluctuate from hour to hour, would be classed among the incurable ones, but the exact opposite is the case. Those are the most obstinate and unfavorable whose hallucinations are characterized by fixedness and constancy. One notable exception to this is in what is called "correlative hallucinations" of several senses, which when once firmely established are incurable because they confirm and support one another. Fortunately these cases are rare, yet we occasionally find them, and when found we only look at them as bearing one more stamp of incurability.

As I said before, hallucinations of hearing occur more frequently in chronic than in acute cases, and are more formidable. They are difficult, or impossible, to eradicate, and when they exist, render him who is afflicted the most dangerous of patients. Such patients eat, drink, walk and act

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according to the commands they hear, and if compelled to act contrary to them, they tell us they will suffer for such disobedience. They obey the voices implicitly, and often commit the most horrible crimes, never for a moment considering themselves as guilty or responsible.

What can be done with the patient who firmly believes he is commanded by God to take the life of his child and acts accordingly?

In chronic cases, or in those in which the insanity has revealed itself gradually and with few acute symptoms, hallucinations of hearing form about two-thirds of all the cases we meet with. When a patient of this class tells us he or she hears "voices," not mere sounds, we expect an unfavorable case, our prognosis is gloomy, and our caution is that such a one requires close watching.

Illusions and hallucinations are often so closely linked together that they can be with difficulty separated. The only point of distinction is that in illusions there is a real presence justifying the false perception, while in hallucinations there is no such presence. The anatomy and physiology of these two classes of perceptions are in the main identical and may be treated together.

Take an illusion for an example; the image of the ventilator is impressed on the patient's nerves of sight and carried to the brain, but the brain being diseased, the image is presented to the patient's consciousness as the picture of his father. In this case the eye may be, and doubtless is, in perfect order, yet the brain image and the optical image are radically different.

Sensations arising in the brain are referred to the ends of the nerves having their origin in that particular portion. In hallucinations of hearing, the portion or the brain which presides over that function being diseased, the sensation is referred to the nerves in the ear, and the patient hears voices in the quiet of the night time commanding him to do or say certain things. Hallucinations of this kind would be just as common if the patient was deaf, blind or wanting in any of the common senses.

With a little reflection you will notice it would be impossible for illusions to exist under the above conditions, however frequently it may occur with hallucinations, for with the former an external impression is necessary.

CAUSES.—Inequalities in cerebral circulation, or changes in the quality of the blood, toxic substances as opium, alcohol and many other agents; general anæmia, or whatever increases the irritability of the nerve centers; states of exhaustion from fevers, hemorrhage or starvation, are all competent causes of illusion and hallucination. They may also arise from powerful emotion or from concentration of thought upon one subject.

Most all of us can recall cases of this kind where, by anxious parents, the least noise is construed into the cry of a sick child, or by the eager watcher into the approaching footsteps of the long-expected one. These are examples of illusions, but cannot be called insane ones, for the people experiencing them are able to correct the false perception of the senses and separate the true from the wholly imaginary.

DELUSIONS.—An insane delusion is a false belief; the patient accepts his false perceptions as facts and no amount of reasoning can persuade him that his perceptions are false. Delusions have been ranked as the most important legal evidence of insanity, perhaps for the reason that they are better understood by court and jury. Every erroneous conclusion must not be called a delusion, for errors in judgment arise from imperfect knowledge and bad logic, and the premises may be imperfect though not false; the reasoning may be bad, but that does not imply disease, whereas, in delusions the premises are false, though there may be no fault in the logic.

Numerous examples will be found where patients holding a faulty belief cannot be reasoned out of it by any amount of argument. I need hardly say that the patient, who, on his arrival, confidently informs you that he is George Washington or Napoleon; or one who, from the lower walks of life, yet wishes to present you with a hat full of diamonds; or one who insists she is the Lord Almighty; or one who says he is making angels, are each and all suffering from delusions. That the patient is delusional who constantly complains that her brain, liver and stomach are being cut to pieces by a man who has been dead for years, goes without saying.

Neither is it necessary that the delusions shall be expressed in words, for the actions of a patient often stamp them as delusional when they never reveal them by words. In this particular, delusions of grandeur are more marked than any other.

The melancholy patient who has never been heard to utter a word is governed by his or her delusions; and in one case I remember the patient never spoke of them except when under the influence of chloroform for the reduction of a

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dislocated shoulder, produced by an unsuccessful attempt at suicide.

The peculiarities of manner which spring from overbearing self-conceit are the most striking and constant. The lunatic who has a delusion respecting his own mighty power and ability as a fighter will take the opportunity to show his powers, and much of the violence among the insane arises from this very common delusion.

The origin of delusions is very similar to that of illusions and hallucinations and may be treated in two classes; those arising *in the brain itself* and those *external to it.*

Among those arising in the brain itself may be enumerated disturbances of cerebral circulation, the use of poisonous substances as alcohol and opium, and from organic disease of the brain itself. Among the external ones are general irritation of the peripheral nervous system, local disease of the internal organs and diseases of the organs and special sense.

Illusions and hallucinations are perhaps the most patent cause of delusions among the insane, for it is more difficult for those experiencing them than for persons in health to discredit the evidence of their senses.

Delusions might be divided again, according to their nature, into *depressive* and *expansive*, *temporary* and *permanent*, *passive with a tendency to action*, and *active with a tendency to violence.* Each of these and many others might be treated separately.

Before going further let us view the definitions given above.

1. An *illusion* is a false perception of a real sensorial impression.

2. An *hallucination* is a false perception without any material basis.

3. A *delusion* is a false belief; the patient accepts his false perceptions as facts.

You might ask how are we to know that these peculiar notions are really delusions, when we remember that conversation and conduct might be perfectly proper and natural in one person, while in another, differently constituted, would indicate insanity. In determining the mental condition of an individual he must not be judged by any arbitrary standard of sanity or insanity, nor compared with those unquestionably sane or insane. He can properly be compared only with himself.

"When a person without any adequate cause adopts notions he once regarded as absurd, or indulges in conduct opposed to all his former habits and principles, or changes completely his ordinary temper, manners and disposition—the man of practical sense indulging in speculative theories and projects; the miser becoming a spendthrift and the spendthrift becoming a miser; the staid, quiet, unobtrusive citizen becoming noisy, restless and boisterous; the gay and joyous becoming dull and disconsolate, even to the verge of despair; the careful, cautious man of business plunging into hazardous schemes of speculation; the discreet and pious becoming shamefully reckless and profligate—no stronger proof of insanity can be had."

And yet, not one of these traits, in and by itself alone, could be regarded as conclusive evidence of insanity. In accordance with this fact the the principle has been laid down, with the highest legal and medical authority, that it is the prolonged departure, without any adequate cause, from states of feeling and modes of thinking usual to the individual, when in health, which is the essential feature of insanity.

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Glaucoma.

Dr. Sutphen (*Trans. of Am. Oph. Soc.*) speaks very highly of the use of salicylate of soda for the relief of pain in glaucoma. "I have used this remedy with the utmost satisfaction, believing it to be almost a specific for the relief of the severe pain so constant in secondary glaucoma, with or without an apparent rheumatic diathesis, and also in cases where there is more or less supraorbital neuralgia when the condition of the glaucomatous eye does not demand surgical interference." In continuing the article he reports a number of cases where large doses of opium or morphine had been given with little effect, but pain promptly yielded when the salicylate of soda was used. One case, in which an operation had been advised, was of special interest by virtue of the fact that not only was the pain relieved by the use of the salicylate, but also the vision, which had fallen to 20-200, in the course of about ten weeks, was restored to its normal condition.—*Medical Brief.*

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The Birth and Death of Pain.

By S. Weir Mitchell, M. D.

Read October 16, 1896, at the commemoration of the Fiftieth Anniversary of the First Public Demonstration of Surgical Anesthesia, and published in the Boston Medical and Surgical Journal.

Forgive a moment, if a friend's regret
Delay the task your honoring kindness set.
I miss one face to all men ever dear;
I miss one voice that all men loved to hear.
How glad were I to sit with you apart
Could the dead master use his higher art
To lift on wings of ever lightsome mirth
The burdened muse above the dust of earth,
To stamp with jest the heavy ore of thought,
To give a day, with proud remembrance fraught,
The vital pathos of that Holmes-spun art
Which knew so well to reach the common heart.
Alas! for me, for you that fatal hour!
Gone is the master! Ah! not mine the power
To gild with jests that almost win a tear,
The thronging memories that are with us here.

The Birth of Pain! Let centuries roll away;
Come back with me to nature's primal day.
What mighty forces pledged the dust to life!
What awful will decreed its silent strife!
Till through vast ages rose on hill and plain
Life's saddest voice, the birthright wail of pain.
The keener sense and ever growing mind
Served but to add a torment twice refined,
As life, more tender as it grew more sweet,
The cruel links of sorrow found complete,
When yearning love to conscious pity grown,
Felt the mad pain thrills that were not its own.

What will implacable, beyond our ken,
Set this stern fiat for the tribes of men!
This, none shall 'scape who share our human fates;
One stern democracy of anguish waits
By poor men's cots—within the rich man's gates.
What purpose hath it? Nay, thy quest is vain;
Earth has no answer; if the baffled brain
Cries, 'tis to warn, to punish—ah, refrain!
When writhes the child beneath the surgeon's hand,
What soul shall hope that pain to understand?
Lo! Science falters o'er the hopeless task,
And love and faith in vain an answer ask,
When thrilling nerves demand what good is wrought
Where torture clogs the very source of thought.

Lo! Mercy, ever broadening down the years,
Seeks but to count a lessening sum of tears.
The rack is gone—the torture chamber lies
A sorry show for shuddering tourist eyes.
How useless pain, both Church and State have learned,
Since the last witch or patient martyr burned.
Yet still, forever, he who strove to gain
By swift dispatch a shorter lease for pain
Saw the grim theater, and 'neath his knife
Felt the keen torture in the quivering life.
A word for him who, silent, grave, serene,
The thought-stirred master of that tragic scene,
Recorded pity through the hand of skill;
Heard not a cry, but, ever conscious still,
In mercy merciless, swift, bold, intent,
Felt the slow moments that in torture went
While 'neath his touch, as none to-day has seen
In anguish shook life's agonized machine.
The task is o'er; the precious blood is stayed;
But double price the hour of tension paid.
A pitying hand is on the sufferer's brow—
"Thank God 'tis over." Few who face me now
Recall this memory. Let the curtain fall,
For gladder days shall know this storied hall!

Though Science patient as the fruitful years,
Still taught our art to close some fount of tears,
Yet who that served this sacred home of pain
Could e'er have dreamed one scarce-imagined gain,
Or hoped a day would bring his fearful art
No need to steel the ever kindly heart.

So fled the years! while haply here or there
Some trust delusive left the old despair;
Some comet thought—flashed fitful through the night,
No lasting record, and no constant light.
Then radiant morning broke, and ampler hope
To art and science gave illumined scope.

What angel bore the Christ-like gift inspired!
What love divine with noblest courage fired
One eager soul that paid in bitter tears
For the glad helping of unnumbered fears,
For the strange record of creation tore
The sentence sad, each sorrowing mother bore,
Struck from the roll of pangs one awful sum,
Made pain a dream, and suffering gently dumb!

Whatever triumphs shall still hold the mind,
Whatever gift shall yet enrich mankind,
Ah! here, no hour shall strike through all the years,
No hour as sweet, as when hope, doubt and fears,
'Mid deepening stillness, watched one eager brain,
With God-like will, decree the Death of Pain.

How did we thank him? Ah! no joy-bells rang,
No pæans greeted, and no poet sang,
No cannon thundered, from the guarded strand
This mighty victory to a grateful land!
We took the gift, so humbly, simply given,
And coldly selfish—left our debt to Heaven.
How shall we thank him? Hush! A gladder hour
Has struck for him; a wiser, juster power
Shall know full well how fitly to reward
The generous soul, that found the world so hard.

Oh! fruitful Mother—you, whose thronging states,
Shall deal not vainly with man's changing fates,
Of freeborn thought, or war's heroic deeds
Much have your proud hands given, but nought exceeds
This heaven-sent answer to the cry of prayer,
This priceless gift which all mankind may share.

A solemn hour for such as gravely pause
To note the process of creation's laws!
Ah, surely, He, whose dark, unfathomed Mind
With prescient thought, the scheme of life designed,
Who bade His highest creature slowly rise,
Spurred by sad needs, and lured by many a prize,
Saw, with a God's pure joy, His ripening plan,
His highest mercy brought by man to man.

—*North American Practitioner.*

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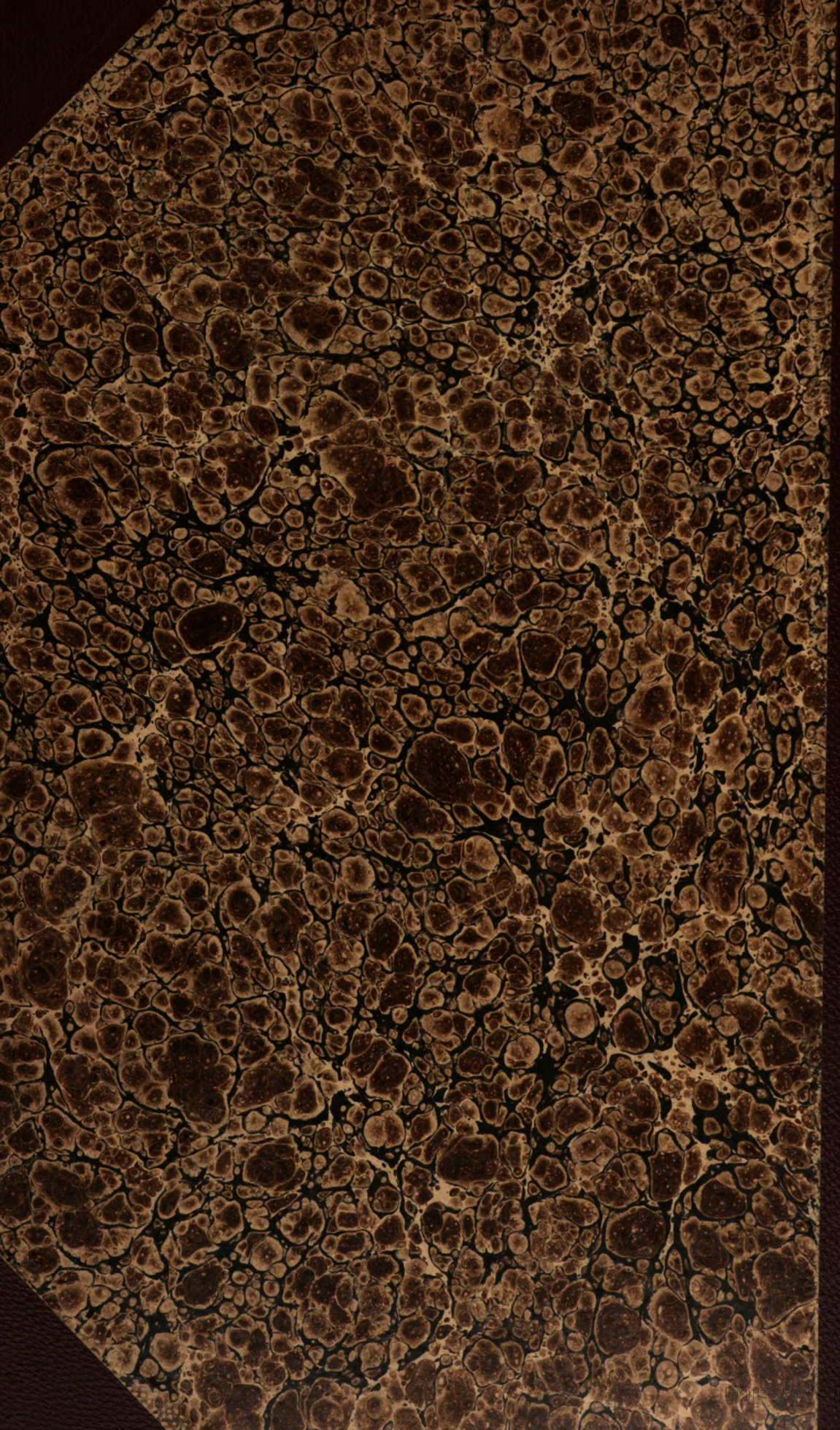
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